

Current Affairs

Workbook

October 2024



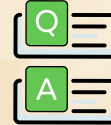
Mains Questions



Ethics Case Studies



Progress Tracking Table



MCQs



Quick facts



Comprehensive Summary



True/ False

Self-Evaluation

Progress Tracking Table

Activity Type	Total Questions	Correct Answers	Attempted	Score/Percentage
MCQs				
True/False Statements				

Monthly Learning Summary

Top 3 Learnings/Insights

-
-
-

Progress Comparison

Previous Month's Score: _____

Current Month's Score: _____

Areas of Improvement: _____

Reflection Section

Strengths: _____

Areas for improvement: _____

Goals for Next Month: _____



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GTB Nagar Metro (Mukherjee Nagar): 23 DEC, 8 AM | 13 DEC, 6 PM

BENGALURU: 5 DEC

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From the Editor's Desk

In the fast-paced world of competitive preparation, mastering current affairs demands more than just passive reading—it requires active engagement and consistent practice. Considering this, we present the Current Affairs Workbook, a comprehensive tool designed to make your revision journey structured, interactive, and results-oriented.

Your Path to Mastering Current Affairs

This workbook combines the power of thorough reading and hands-on practice to ensure that you not only understand key concepts but also apply them effectively. By actively engaging with the workbook after studying the Monthly Current Affairs Document, you will reinforce your knowledge and develop the confidence needed to excel in competitive examinations.

How the Workbook is Organized?

- 1. Summary of the Monthly Magazine :** A concise overview of the month's major insights, key events, and trends. This section lays the foundation for understanding before delving into activities.
- 2. Quick Facts Block :** A ready reference of essential facts, figures, and statistics— ideal for rapid revision and recall.
- 3. Activities Block :**
 -  **MCQ's :** Test comprehension of significant topics.
 -  **True/False Statements :** Verify your understanding of key facts.
 -  **Mains practice Questions :** Explore and articulate in-depth topics with clarity.
 -  **Ethics Case Studies :** Apply current events to ethical dilemmas, refining decision making skills.
 -  **Answers and Explanation :** Includes answers to MCQs and True/False questions for immediate feedback.
- 4. Progress tracking table :** Monitor your progress with a dedicated section to record scores and reflect on areas for improvement.

Concluding Note

As you embark on this journey, remember that consistent practice is the key to success. Every effort you make, no matter how small, builds towards mastery. As Bruce Lee aptly said, *"I fear not the man who has practiced 10,000 kicks once, but I fear the man who has practiced one kick 10,000 times."* Dedicate yourself to regular practice and watch your confidence and capability soar.

Warm regards,
VisionIAS

POLITY AND GOVERNANCE



1.1 Jan Yojana Abhiyan

Why in News?

Ministry of Panchayati Raj launched the People's Plan Campaign (Jan Yojana Abhiyan) for the preparation of Panchayat Development Plans (PDPs) for 2025–26.

About Jan Yojna Abhiyan

- ➔ **Aim:** To accelerate **people's participation** in the process of preparation of the Panchayat Development Plan.
- ➔ **Implementation:** At all three tiers of Panchayats with involvement of Elected Representatives, Government Frontline workers, and Community-Based Organizations.

Features

- ➔ **Structured Sabhas** by adopting a 'Whole of Government and Whole of Society approach.'
- ➔ Preparation of **Gram Sabha wise calendar** and identification of **Thematic developmental gaps** based on the **Panchayat Development Index (PDI)**, to be presented in the Gram Sabha.
- ➔ **Inclusive participation:** Engage the youth and the elderly (more than 75 years) and collaboration with Unnat Bharat Abhiyan: Involving 15,000+ students from HEIs
 - ➔ **Forms of participation:** As a right(vote), as a process(audit), as an end(affirmative action).
- ➔ **e-Gram Swaraj portal** for publishing approved GPDP.

Significance of People's participation in Development Planning

- ➔ **Implementation Efficiency:** Example - MGNREGA with Gram Sabha reviews and MIS monitoring
- ➔ **Inclusive decision-making:** Example - MyGov Saathi 2.0 for citizen participation
- ➔ **Self-reliance:** Example - Self-Help Groups under NRLM
- ➔ **Coverage:** Example - Swachh Bharat Abhiyaan's community volunteers
- ➔ **Sustainability:** Example - Joint Forest Management (JFM)
- ➔ **Improved design:** including local knowledge

Challenges in people's participation

- ➔ Local governments lack the necessary funds and capacity.
- ➔ Complex bureaucratic procedure.
- ➔ Non-obligatory nature of participation in various programmes.
- ➔ Lack of a direct incentive for people to be involved.
- ➔ Historic patron-client attitude can create attitudinal rigidity.

Way Forward

- ➔ Policy integration with conventional planning
- ➔ Strengthening local governance
- ➔ Technological integration: participatory GIS
- ➔ Community Capacity Building
- ➔ Behavioural change initiative

1.2. Free Legal Aid

Why in the News?

The Supreme Court (SC) issued directions for Legal Services Authorities (LSAs) to ensure access to free legal aid for prison inmates.

SC Directions to ensure access to free legal aid for prison inmates

- **Effective implementation of SOP-2022** with periodic upgradation.
- **Strengthen the monitoring** of Prisoner Legal Aid Clinics (PLACs)
- Periodical **update of statistical data**
- **Inspection and audit of the work** of the Legal Aid Defence Counsels
- **Awareness generation** about available schemes and legal aid services in local languages
- **Periodic reporting** to be submitted by the DLSAs to the SLSAs

Free Legal Aid in India

- **Legal aid** in India refers to the provision of **free legal services** to individuals who are **unable to afford legal representation or access to the justice system**.
- ➔ Legal aid can include **legal advice, representation in court proceedings, mediation, negotiation, and alternative dispute resolution mechanisms**
- **Constitutional provisions** : Article 21, 39A
- **Statutory provisions**:
 - ➔ Legal Services Authorities Act, 1987
 - ◊ Three tiered structure – NALSA, SLSAs, DLSAs.
 - ➔ Bhartiya Nagarik Suraksha Sanhita, 2023 (sec 341)
- **Significance**: Social welfare and justice, Protection of rights, Strengthening rule of law, and Legal awareness.
 - ➔ **Government Steps**: Designing Innovative Solutions for Holistic Access to Justice in India (DISHA) scheme, Tele-Law, Nyaya Bandhu (Pro Bono Legal Services) programme , Nyaya Mitra programme, Lok Adalat, etc.
 - ➔ **Important Judgements**: **Hussainara Khatoon v. State of Bihar, 1979** (fundamental right to speedy trial), **Khatri & Others v. State of Bihar, 1981** (highlighted importance of legal aid), etc.
- **Eligibility**: Women and children, Scheduled Castes/Scheduled Tribes, Persons with Disabilities, etc.

Issues with access to free legal aid

- Lack of awareness in under trial prisoners of their rights
- Poor quality of legal aid
- Insufficient funding
- complex eligibility criteria
- bureaucratic hurdles
- Barriers to access for marginalized communities (Geographical distance, language barriers)

Way forward

- **Policy implementation**: increasing funding for legal aid, simplifying eligibility criteria, etc.
- **Infrastructure and Resources**: Building capacities of LSAs
- **Awareness generation**: For example, Haq Humara bhi toh hai@75 campaign in 2022
- **Leveraging Technology**: E.g. Prison records made available digitally
- **Quality legal aid**: competence and due diligence (Ramanand@ Nandlal Bharti v. State of U.P., 2022)



1.3. Right To Information (RTI) Act, 2005

Why in the News?

Right to Information (RTI) Act, 2005 approaches its 20th anniversary in 2025.



About RTI Act

- ➔ It provides citizens the right to secure **access to information** under control of Public Authorities (PAs).
- ➔ **Coordinating agency:** Department of Personnel and Training under Ministry of Personnel, Public Grievances and Pensions.
- ➔ **Supreme Court Judgement:** 'Raj Narayan v/s Uttar Pradesh Government' case, established right to information as a fundamental right under the Article 19

Key Provisions of the RTI Act

- ➔ **Institutional framework:** Central and State Information Commissions and Central Public Information Officers (PIO) or State PIOs.
- ➔ **Rights provided:** right to request information from and obligations of Public Authorities to maintain records and proactively disclose .
- ➔ **Exemptions from Disclosure (Section 8):** see infographic
- ➔ **Other key Provisions:** Penalties(incorrect, incomplete information); Time (Within 30 days); Appeals , etc.
- ➔ **Amendments:**
 - ➔ **Right to Information (Amendment) Act, 2019:** Central Government to prescribe the Terms, Salaries, Allowances and other terms of service of Chief Information Commissioners (ICs) and ICs.
 - ➔ **Digital Personal Data Protection (DPDP) Act, 2023:** exempted all personal information from disclosure.
- ➔ **Significance of Right to Information:** Empowerment of Citizens, Transparency, Accountability, Expose Corruption, Effective Implementation of Policies and Welfare Schemes

Information exempt from disclosure (Section 8)

	
<ul style="list-style-type: none"> ▶ Affects sovereignty and integrity, security, strategic, scientific or economic interests of India. ▶ Affects relations with foreign State ▶ Leads to incitement of an offence ▶ Causes Breach of privilege of Parliament/ State Legislature ▶ May constitute contempt of court. 	<ul style="list-style-type: none"> ▶ Information received in confidence from foreign Government ▶ Endangers the life or physical safety of any person. ▶ Impedes investigation process or apprehension/ prosecution of offenders etc. ▶ Expressly forbidden to be published by any court of law/ tribunal

Challenges in implementation of RTI Act

- ➔ **Functional Issues:** Defunct ICs and vacancies, Inordinate delays, Backlogs, Skewed gender composition:
- ➔ **Structural Issues:** Exemptions, Authorities outside 'Public Authority' definition(e.g. PM CARES Fund), Dilution through amendments(2019 Amendment), etc.
- ➔ **Procedural Issues:** Bureaucratic Resistance, corruption , Non-Compliance (Political parties), Lack of Awareness and Education, etc.
- ➔ **Other issues:** Lack of protection of RTI activists; Inadequate training of PIOs; Contradiction with Official Secrets Act, 1923 etc.

Way Forward

- ➔ Recommendations of 2nd ARC, Example- National Coordination Committee (NCC); Awareness campaigns, etc.
- ➔ Recruitment of adequate staff
- ➔ Proper record keeping by experts
- ➔ Rigorous training to officials, Digitisation etc.

1.4. News in Shorts

1.4.1. Supreme Court Questions Feasibility of Gram Nyayalayas

SC raised concern regarding the feasibility of setting up Gram Nyayalayas (village courts), as mandated by the Gram Nyayalayas Act of 2008.

Key Concern raised by SC

- Whether **establishment of Gram Nyayalayas by States/UTs** is mandatory or not under Gram Nyayalayas Act of 2008.
- **Resource Crunch for State governments** to fund additional gram nyayalayas.
- **Rising Burden on high courts** with appeals and writ petitions.

About Gram Nyayalayas

- **Objective:** Ensures that opportunities for securing justice are not denied to any citizen by reason of social, economic or other disabilities.
- **Seat:** Establish at intermediate level Panchayat with 'Nyayadhikari' (appointed by State government in consultation with High Court) at the top.
- **Jurisdiction:** Both civil and criminal jurisdiction
- **Dispute Process:** Disputes are to be preferably settled with the help of conciliation.
 - ➔ Not bound by the **Bharatiya Sakshya Adhiniyam** but by **Principles of Natural Justice**
- **Implementation Status:** Initial target of around 2,500 gram nyayalayas, however, less than 500 have been established.
- **Initiative to Support Gram Nyayalayas:** 'Gram Nyayalayas scheme' for financial assistance to States by Union.

1.4.2. Section 6A of Citizenship Act

Constitution bench of Supreme Court (SC) upheld the validity of Section 6A of Citizenship Act.

- **Section 6A:** added through **Citizenship Amendment Act, 1985** in furtherance of '**Assam Accord**' (citizenship to migrants from East Pakistan to Assam).

SC judgment

- **Legislative competence of Parliament to enact section 6A:** under Article 246 (Entry 17 of Union list)
- **Article 14 (Equality):** Not violated because the migrant situation in Assam was unique.
- **Impact on Culture (Article 29 (1)):** No evidence
- **Cutoff date of 24 March 1971:** Reasonable because Pakistani Army launched Operation in East Pakistan on 26 March 1971.

1.4.3. Universal Postal Union (UPU)

150th anniversary of the Universal Postal Union.

About Universal Postal Union (UPU)

- A United Nations specialized agency (second oldest international organization) established in 1874 as General Postal Union (**Treaty of Bern**).
- **HQ:** Bern, Switzerland.
- **Members:** 192 countries including India

1.4.4. International Telecommunication Union (ITU)

ITU's World Telecommunication Standardization Assembly (WTSA) 2024 held in New Delhi.

- WTSA is the governing conference for the standardization work of the ITU, organized every four years.

About ITU

- **Genesis:** In 1865, the first International Telegraph Convention signed in Paris established International Telegraph Union (the first incarnation of ITU).
- **Role:** UN's specialized agency for digital technology and harnessing innovation.
- **Members:** 193 Member States (including India)
- **Headquarters:** Geneva (Switzerland)

INTERNATIONAL RELATIONS



2.1. India–China Agreement on Line of Actual Control (LAC)

Why in the News?

India and China agreed to resume patrolling in Depsang Plains and Demchok areas along LAC, reverting to pre-May 2020 positions.

More on the News

- ➔ Agreement marks the **first step of three-step process**: disengagement, de-escalation, and de-induction.
- ➔ **Significance of Depsang Plains**: proximity to Daulat Beg Oldie road and its flat terrain is suitable for launching military offensives.

About 2020 India–China Stand off

- ➔ Initial clashes at Pangong Tso followed by Naku La and Galwan clashes.
- ➔ Led to massive troop deployment and infrastructure build-up by both sides.

India–China Border Dispute

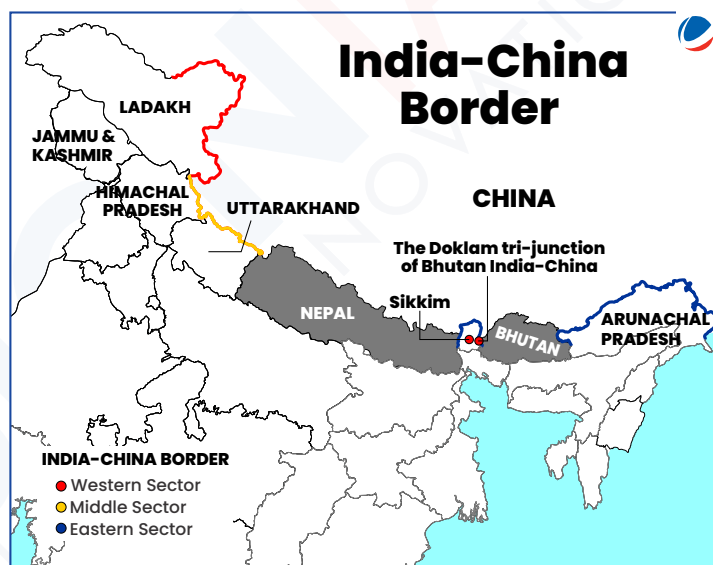
- ➔ The 3,488-km border lacks clear demarcation with no mutually agreed LAC.
- ➔ India–China boundary is divided into **three sectors**:
 - ➔ **Western (Ladakh)**: China rejects Johnson Line and claims Aksai Chin based on McDonald Line.
 - ➔ **Middle (Uttarakhand and Himachal Pradesh)**: Largely undisputed with agreed maps.
 - ➔ **Eastern (Arunachal Pradesh and Sikkim)**: China rejects McMahon Line and claims entire Arunachal Pradesh.

Other areas of concerns

- ➔ **Economic**: \$85 billion trade deficit (in 2022-23), dependency on Chinese semiconductors, etc.
- ➔ **Security**: China–Pakistan military alliance
- ➔ **Water power**: E.g. In 2000, a dam breach in Tibet caused floods in northeast India
- ➔ **Strategic infrastructure near LAC**: E.g. a 400-meter bridge near Pangong Lake
- ➔ **String of Pearls**: China's strategic presence and dual use infrastructure development in neighboring countries. E.g. Hambantota Port (Sri Lanka), Gwadar Port (Pakistan) etc.
- ➔ **Concerns for freedom of navigation and stability in IOR**: China's territorial claims in the South China Sea

Reasons for China's assertiveness

- ➔ India's rising global influence and strategic autonomy (e.g. rejection of BRI)
- ➔ India's alignment with democratic powers (e.g. QUAD) and India as democratic power (alternative to China's debt-trap policy)



- ➔ Bhutan factor and Siliguri corridor concerns (Doklam trijunction)
- ➔ Arunachal Pradesh's strategic importance for India to launch offensive against China
- ➔ Ideological factors including Sinocentrism
- ➔ Use of 'Grey Zone' warfare tactics (e.g. Salami slicing strategy)

Conclusion

Relationship remains challenging due to both countries' rising parallel trajectories and geographical proximity.

2.2. India-Maldives Relationship

Why in the News?

The president of Maldives made his maiden bilateral state visit to India.

Key outcomes of the visit

- ➔ Adoption of '**Comprehensive Economic and Maritime Security Partnership**' covering:
 - ➔ **Development Cooperation:** Greater Male Connectivity Project
 - ➔ **Trade cooperation:** Discussions on Bilateral Free Trade Agreement and settlement of trade transactions in local currencies
 - ➔ **Digital initiatives:** RuPay card launch in Maldives
 - ➔ **Health cooperation:** Recognition of Indian pharmacopoeia and Jan Aushadhi Kendras
- ➔ **Currency Swap Agreement** under SAARC Framework 2024-27
- ➔ Inauguration of **Hanimadhoo International Airport runway** and new **commercial port in Thilafushi**

Significance of Maldives for India

- ➔ **Geopolitical:** E.g. India's NFP (Neighbourhood First Policy) and SAGAR
- ➔ **Strategic:** As 'toll gate' between western (Gulf of Aden and Strait of Hormuz) and eastern (Strait of Malacca) Indian Ocean chokepoints
- ➔ **Geo-economics:** India's 50% of external trade and 80% of energy imports passes through nearby Maldives
- ➔ **Security:** Strong relation helps counter China's 'String of Pearls'
- ➔ **Counter terrorism:** First line of defence against terrorism and piracy
- ➔ **Diaspora and Tourism:** Indian workforce (in healthcare & education) and a major tourist destination

Challenges in the bilateral relationship

- ➔ China's strategic footprints through String of Pearls (e.g. Sinamale Bridge)
- ➔ Increasing radicalization concerns (e.g. Islamic State)
- ➔ Growing anti-India sentiments (e.g. India out campaign)
- ➔ Allegation of lack of transparency in agreements with India (e.g. Uthuru Thila Falhu - Island Harbour project)

Way ahead to strengthen the bilateral relationship

- ➔ Expedite infrastructure project delivery (e.g. Great Male Connectivity Project)
- ➔ Enhance financial aid to counter Chinese influence (e.g. debt-trap diplomacy)
- ➔ Strengthen security cooperation (e.g. intelligence sharing)
- ➔ Employ soft diplomacy (e.g. diaspora, films, etc.)
- ➔ Follow Gujral doctrine principles



2.3. India–Canada Relationship

Why in the news?

Recently, the diplomatic tensions escalated between India and Canada.

More on news

- ➔ India expelled six Canadian diplomats and withdrew its High Commissioner from Canada.
- ➔ Earlier, Canada asked India to waive off **diplomatic immunity** of Indian officials.

Reasons for recent fallout

- ➔ **Khalistani extremist** activities supported by Canada
- ➔ **Non-cooperation in security issues** (e.g. disregard to extradition requests)
- ➔ **Stalled economic agreements** (e.g. Comprehensive Economic Partnership Agreement (CEPA))
- ➔ **Vote bank politics** in Canada using Sikh community

Significance of India–Canada relationship

- ➔ **Strategic cooperation:** Rule based order in Indo-Pacific region (China factor)
- ➔ **Economic:** Bilateral trade touching \$9.36 billion (in goods) and \$9.99 billion (in services) in 2023
- ➔ **Investment opportunities:** E.g. Canadian pension funds invested over \$75 billion in India
- ➔ **Large Indian diaspora** (~1.8 million)
- ➔ **Civil Nuclear cooperation agreement** (2010)
- ➔ **Defence cooperation** e.g. MoU between DRDO and Canadian Commercial Corporation for defence technology development

Probable impact of diplomatic fallout

- ➔ Disruption of trade and investment (e.g. CEPA)
- ➔ **Concerns for Indian diaspora**, esp. students in Canada (estimated 230,000)
- ➔ **Visa processing complications**

Steps needed to strengthen the relationship

- ➔ Initiate **high-level diplomatic discussions**
- ➔ **Enhance security cooperation against terrorism** under Framework for Cooperation on Countering Terrorism and Violent Extremism (2018)
- ➔ **Resume trade agreement negotiations** (CEPA)
- ➔ Engage diaspora through **Track-II diplomacy**
- ➔ **Strengthen common strategic interests** in Indo-Pacific region (**freedom of navigation**)

2.4. ASEAN

Why in News?

Prime Minister of India participated in the 21st ASEAN–INDIA Summit in Vientiane, Lao PDR.

Key developments of the 21st ASEAN–India Summit

- ➔ **Reviewed:** Progress of **ASEAN–India Comprehensive Strategic Partnership**
- ➔ **New development:** Creation of **ASEAN–India Plan of Action (2026–2030)**
- ➔ **10-Point Plan to strengthen India–ASEAN ties:** on disaster resilience, green hydrogen, etc.
- ➔ **Joint Statement on Strategic Partnership:** review of **ASEAN–India Trade in Goods Agreement (AITIGA)**, launch of the **ASEAN–India Fund for Digital Future**.
- ➔ **Joint Statement on Digital Transformation:** including **Digital Public Infrastructure (DPI)**, **Financial Technology**, etc

About Association of South East Asian Nations (ASEAN)

- ➔ **Established:** in 1967 in Bangkok under ASEAN Declaration as an inter-governmental grouping

- ➔ **Aim:** promoting political and economic cooperation among members.
- ➔ **Headquarters:** Jakarta, Indonesia
- ➔ **Institutional mechanism:** ASEAN Summit, ASEAN Coordinating Council, ASEAN Secretariat, ASEAN Regional Forum, etc.
- ➔ **Decision Making:** Through consultation and consensus
- ➔ **ASEAN Future Forum:** Proposed by Vietnam in 2023. India is a founding member.

Importance of ASEAN for India

- ➔ **Economic partnership:** ASEAN is India's 4th largest trading partner (bilateral trade being \$ 122.67 Billion during 2023-24)
- ➔ **Indo-Pacific strategy:** ASEAN Centrality in India's 'Act East' policy and stability in India's east (e.g. Myanmar)
- ➔ **Connectivity with North East:** E.g. Kaladan Multi-Modal Transport Project
- ➔ Counterbalance the growing **Chinese influence** in the region
- ➔ **Secure critical maritime routes** including the **Malacca Strait**
- ➔ **Soft power and goodwill:** E.g. Tourism and education

Significance of ASEAN in the Indo-pacific region

- ➔ Geopolitical and economic centrality
- ➔ Rules-based order
- ➔ Balancing great power rivalry (US and China)
- ➔ Connectivity (e.g. Master Plan on ASEAN Connectivity 2025)

Challenges in India-ASEAN relationship

- ➔ **Economic concerns:** E.g. India's decision to walk out of **Regional Comprehensive Economic Partnership (RCEP)**
- ➔ **Trade deficit for India:** increased to \$ 43.57 billion in 2022-23
- ➔ **Increasing Chinese influence:** E.g. Belt and Road Initiative (BRI)
- ➔ **Limited Connectivity:** E.g. Delay in India-Myanmar- Thailand Trilateral Highway

Way ahead to strengthen the relationship

- ➔ Implementation of 10-Point plan
- ➔ Update and expand ASEAN-India Free Trade Agreement (FTA)
- ➔ Robust maritime cooperation
- ➔ Initiate an 'Indo-Pacific Maritime partnership' to counterbalance China
- ➔ Complete key connectivity projects (e.g., India-Myanmar-Thailand Trilateral Highway)

2.5. BRICS

Why in the News?

16th BRICS Summit, and the First Summit with expanded BRICS membership was held in Kazan (Russia).

Outcomes of the Summit

- ➔ Adoption of Kazan Declaration
- ➔ Extend support to Brazil for its BRICS Chairship in 2025

About BRICS

- ➔ **Genesis:** BRIC started functioning as a formal grouping in 2006. 1st BRIC Summit in Russia in 2009 (became BRICS with South Africa in 2010)
- ➔ **5 new members (BRICS+):** Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates.
- ➔ **3 Pillars of cooperation:** Political & security, Economic and financial, Cultural and people-to-people cooperation
- ➔ **Significance:** 45% of the world's population and 37.3% of world GDP

Key Initiatives of BRICS

- ➔ **Financial:** New Development Bank (NDB), BRICS Grain Exchange, etc.
- ➔ **Voice to Global South:** 'BRICS Plus' Dialogue, 'BRICS Partner Country' (13 new countries), etc.

- ➔ **Security:** BRICS Rapid Information Security Channel
- ➔ **S&T:** BRICS Remote Sensing Satellite Constellation, BRICS R&D Vaccine Center, etc.

Relevance of BRICS in contemporary world

- ➔ **Energy Security:** BRICS countries produce about 44% of the world's crude oil
- ➔ **Voice for global south:** on issues such as terrorism, climate change
- ➔ **Safe space for dialogue:** BRICS offers neutral ground for dialogue amid tensions. (India-China Doklam standoff).
- ➔ **Boosting multilateral reform demands:** such as UNSC and WTO

Challenges associated with BRICS

- ➔ **Economic:** Low Intra-BRICS Trade at just 2.2% (as of 2022), dominance of China, etc.
- ➔ **Lack of funds with NDB** compared to the World Bank and IMF
- ➔ **Limited influence on Global Institutions:** E.g. BRICS+ hold only 19% of voting power in World Bank (40% by G7)
- ➔ **Geopolitical rivalries between BRICS members:** E.g. India and China
- ➔ **Economic slowdown in BRICS members:** E.g. China and South Africa
- ➔ Perception of being **anti-West**

Way Forward

- ➔ Clear and Shared Vision
- ➔ Defining membership criteria
- ➔ Consensus-Building
- ➔ Enhanced Institutional Capacity
- ➔ Checking Chinese influence

2.6. News in Shorts

2.6.1. India and Uzbekistan signed Bilateral Investment Treaty (BIT)

It will promote economic cooperation and create investment environment

About BIT

- ➔ **Objective:** a reciprocal agreement for investment protection of nationals and companies of one country in another
- ➔ India approved **Model BIT text (2015)** for (re)negotiations of BITs
 - ➔ **Key Features of Model BIT:** National Treatment, Protection from expropriation, Settlement of Disputes, etc.

India – Uzbekistan Relations:

- ➔ India is among Uzbekistan's top 10 trade partners (2023-24)
- ➔ Joint military exercises "DUSTLIK"
- ➔ Uzbekistan supplies uranium ore concentrates
- ➔ Estimated Indian community of 14,000 in Uzbekistan

2.6.2. India-UAE Bilateral Investment Treaty (BIT) Came Into Effect

About India-UAE BIT

- ➔ **Genesis:** signed in February (2024), entered into force from 31st August, 2024
- ➔ **Key Features:**
 - ➔ Investor-State Dispute Settlement through arbitration
 - ➔ Closed asset-based definition of Investment
 - ➔ Obligation for no denial of justice
 - ➔ Protection to investments from Expropriation, Transparency, etc.
- ➔ **Significance:** UAE is seventh largest FDI source for India (from April 2000-June 2024)

2.6.3. Committee of Ten (C-10) Group

Indian External Affairs Minister participated in the first-ever Joint Ministerial Meeting of the C-10 and L69 groupings.

C-10 Group

- ➔ **Genesis:** created in 2008, it is Committee of Ten African Ministers of Finance and Central Bank Governors (C-10)
- ➔ **Members:** Algeria, Botswana, Cameroon, Egypt, etc.
- ➔ **Mandate:** Advocating African participation in international financial institutions (IFIs), etc.

L69: countries from Africa, Latin America, Caribbean, Pacific Island states and Asia, including India.

2.6.4. UK Hands Sovereignty of Chagos Islands To Mauritius

Both countries have reached a historic political agreement while US-UK joint base will remain on Diego Garcia atoll.

About Chagos Archipelago

- ➔ **Location:** 500 km south of Maldives in Indian Ocean Region
- ➔ **History:** Uninhabited until 18th century, later French colonized it, French ceded island to British in 1814.
- ➔ **British Indian Ocean Territory (BIOT):** Formed by UK in 1965 (including Chagos)

Significance of Treaty

- ➔ Ends a long-standing dispute over last British colony in Africa
- ➔ Security Importance (Diego Garcia base allows US to monitor Malacca Strait)
- ➔ Aligned with judgment of International Court of Justice & UNGA resolution



2.6.4. Anaconda Strategy

Taiwan's navy recently claimed that China's military is employing an 'anaconda strategy' to constrict the island.

About Anaconda strategy

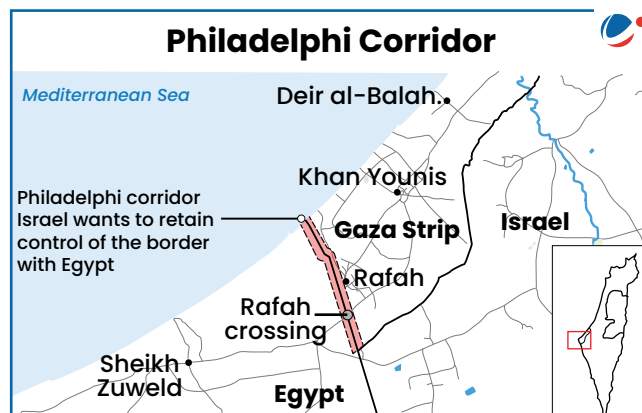
- ➔ **Objective:** a military strategy to suffocate the opponent economically and militarily
- ➔ **China's anaconda strategy:** a mix of military maneuvers, psychological tactics, and cyber warfare.
 - ➔ Goal: to force Taiwan into submission without engaging in a full-scale invasion.

2.6.5. Philadelphi Corridor

Israel has made control of the Philadelphi corridor a condition in ceasefire negotiations between Israel and Hamas.

About Philadelphi corridor

- ➔ **Location:** along Gaza's border with Egypt, about 14kms in length and 100 meters wide
- ➔ **History:** designated as a demilitarized border zone in 2005 after the withdrawal of Israel
- ➔ **Present:** under Egypt and the Palestinian Authority





3.1. Nobel Prize in Economics

Why in the news?

The 2024 Nobel Prize in Economics awarded for research on institutions' formation and impact on prosperity.

Key Highlights of their research

- ➔ **Colonial Impact on Prosperity:** Colonization led to "reversal of fortunes" from 16th century.
- ➔ **Factors influencing institutions:** Settler mortality and population density were key determinants.
- ➔ **Types of Institutions:**
 - ➔ **Extractive:** Exploited indigenous resources, discouraged investment.
 - ➔ **Inclusive:** Built in sparse colonies, encouraged development (E.g., Nogales city - US vs Mexican side).
- ➔ **Institutional Traps.**

Role of Economic and Political Institutions in Shaping National Prosperity

- ➔ Economic institutions dictate resource allocation through measures like Article 300A.
- ➔ Inclusive institutions foster competition and innovation. E.g., NIF.
- ➔ Effective institutions ensure sustainable resource management through bodies. E.g., NGT & Art. 48.
- ➔ Regulations through bodies like CCI that promote fair competition.
- ➔ Political institutions ensure stable governance through provisions, E.g., Article 14
- ➔ Democratic institutions promote participation. E.g., Tribal Advisory Council.
- ➔ Mechanisms like NALSA support growth through efficient dispute resolution.

Initiatives to strengthen Economic Institutions	Initiatives to strengthen Political Institutions
<ul style="list-style-type: none"> ➔ Bank Nationalization ➔ LPG Reforms ➔ Enforcement Directorate ➔ Parliamentary Committees 	<ul style="list-style-type: none"> ➔ Democratic framework with regular elections ➔ Decentralization through 73rd and 74th Amendments ➔ Grievance Redressal initiatives ➔ Anti-Corruption Measures

3.2. B Ready Index

Why in the news?

World Bank launches the first edition of its Business-Ready (B-Ready) Index.

More on News

- ➔ **Three-year rollout phase** from 2024 to 2026
- ➔ Currently includes **50 economies (excluding India)**, plans to expand to 180 by 2026.
- ➔ **Replaces** discontinued Ease of Doing Business rankings.

What is the B Ready Index?

- ➔ New World Bank data collection project to **assess global business and investment climate**.
- ➔ Aims to promote **private investment, create jobs, and support economic development**.

What is the Analytical Framework of the B Ready Index?

- ➔ **Structured around business lifecycle stages:** opening, operating, and closing.
- ➔ **Cross-Cutting Themes:** Digital adoption, Environmental Sustainability & Gender.
- ➔ **10 topics covered by B Ready Index:** Business entry, Business location, Utility services, Labor, Financial services, international trade, Taxation, Dispute resolution, Market competition, and Business insolvency.
- ➔ **For each of the 10 topics, B-Ready considers three pillars:** Regulatory framework (Pillar I), Public Services (Pillar II) & Operational Efficiency (Pillar III)

What is the difference between the Ease of Doing Business and the B-ready index?

- ➔ EODB focused exclusively on regulatory burden on firms in the private sector, **primarily assessing small and medium enterprises** through **10 indicators** across various categories.
- ➔ B-Ready targets broader private sector development, **examining both regulatory burden and quality of regulation** across ten topics **using more comprehensive data collection methods**.

B-Ready Index Significance for India

- ➔ Boosts business competitiveness and foreign investment attraction
- ➔ Supports \$200 billion e-commerce export target by 2030
- ➔ Provides policy insights for trade and compliance reforms
- ➔ Encourages business innovation through digitalization
- ➔ Promotes inclusive growth with gender equality measures
- ➔ Enables continuous global market competitiveness monitoring

Challenges in the Implementation of Index in India: Data collection unreliability challenges; Stakeholders may resist changes; Local government capacity and skill limitations; Complex impact evaluation of proposed reforms

Way Forward: Enhancing governance; Involving stakeholders; Building institutional capacity; Promoting inclusive reforms.

3.3. Scaling of India's Small Companies

Why in the news?

A paper highlighted the rise of **multi-plant phenomena in the Indian manufacturing sector**.

About multi-plant phenomena

- ➔ Manufacturing firms **distribute workforce across multiple factories** in the same state.
- ➔ Accounts for **25.16% of total employment and 35.48% of employment** in large plants.
- ➔ Highlights challenges in scaling up manufacturing firms like **missing middle phenomena, dwarfism of firms**

How a multi-plant phenomenon is different from dwarf firm, and missing middle phenomena?

- ➔ **Multi-plant:** Large firm with multiple small plants.
- ➔ **Dwarf firm:** Small firm that doesn't scale.
- ➔ **Missing Middle:** Lower share of mid-sized firms in manufacturing.

Key Scaling Challenges for Indian Firms:

- ➔ Labour laws create size-based disincentives for growth: **E.g., Industrial Disputes Act (1947)**
- ➔ Risk management through plant diversification.
- ➔ Lack of professional management.
- ➔ Market fragmentation.
- ➔ Land acquisition difficulties.

Implications of Indians firms and plants remaining small

- ➔ Low productivity (8% contribution by dwarf firms)
- ➔ Reduced export competitiveness
- ➔ Limited job creation (contribution of dwarf firms to employment is only 14%)
- ➔ Poor employment quality

Initiatives taken to promote large firms: PLI Schemes; National Industrial Corridor Development Programme; RAMP scheme
 Labour law codification

Way Forward: Implement sunset clause for size-based incentives; Develop management skills; Improve capital access; Promote industrial clusters.

3.4. PM GatiShakti National Master Plan

Why in the News?

Recently, the PM GatiShakti National Master Plan, launched in 2021, has completed three years.

About PM GatiShakti (PMGS)

- ➔ **PM GatiShakti:** An approach for growth accelerating trustworthy infrastructure through synchronized planning.
- ➔ **7 Engines:** Railways, Roads, Ports, Waterways, Airports, Mass Transport, and Logistics Infrastructure.
- ➔ **Objectives:** Enhance ease of living, ease of doing business, minimize disruptions etc.

PM GatiShakti National Master Plan (PMGS NMP)

- ➔ Developed by the Digital Master Planning tool from **BISAG-N** using a GIS platform.
- ➔ Built on open-source tech and hosted on **Meghraj**.
- ➔ Comprehensive project database.

PMGS NMP targets

- ➔ **National Highways:** Targeting 200,000 km of national highways.
- ➔ **Aviation:** Adding 200 new airports, heliports, and water aerodromes.
- ➔ **Rail Cargo:** Increasing capacity to 1,600 tons by FY25.
- ➔ **Power Grid:** Expanding with 454,200 circuit km of lines.
- ➔ **Renewable Energy:** Aiming for 225 GW capacity by FY25 and completing 17,000 km of gas pipelines.

Key Achievements of PM GatiShakti

- ➔ **Government Integration:** Integrated 44 Central Ministries and 36 States/UTs.
- ➔ **Social Sector Impact:** linked PM Shri Schools with local industries.
- ➔ **State Master Plans:** All 36 States/UTs developed PMGS portals aligned with the national platform.
- ➔ **Trade Facilitation:** Planned 8,891 km of roads, reducing logistics costs.
- ➔ **Sustainable Development:** Utilized GIS tools for a 13 GW renewable energy project.
- ➔ **Results Delivery:** Assessed 208 infrastructure projects worth \$180 billion.

Why there was a need for PMGS NMP? Disjointed Planning; Non-/Under-utilization of Installed Infrastructure: (E.g., LNG terminal in Kochi); Lack of Standardization (E.g., ROB); Delays in Clearances/Approvals.

How PMGS is removing barriers for infrastructure growth?

- ➔ **Geospatial Intelligence.** E.g., Using GIS & Satellite imagery.
- ➔ **Smart Logistics:** E.g., Unified Logistics Interface Platform (ULIP).
- ➔ **Breaking Silos:** The Network Planning Group (NPG) synchronizes ministries.
- ➔ **Revolutionizing Project Planning:** Digital surveys (E.g., 400 railway projects planned).
- ➔ Multimodal Connectivity.
- ➔ **Streamlines clearance:** Env. Ministry cut down clearance time from 600 to 162 days.

Challenges faced by PMGS: Interoperability Issues; Data Security Concerns (E.g., Pegasus); Limited Data Sharing with Private Sector; Land Acquisition Challenges. Other Challenges: Legal problems and environmental issues.

Way forward: Simplify Bureaucratic Procedures; Open Up Gati Shakti Platform to Private Sector; District-Level Expansion; Address structural and macroeconomic stability issues.

3.5. 10 Years of Make in India

Why in the News?

Make in India initiative completed 10 years since its launch on September 25, 2014.

About 'Make in India'

- ➔ **Aim:** Transform India into a global design and manufacturing hub through 'Vocal for Local' initiative.
- ➔ **Key objectives:** 12–14% industrial growth rate, 100 million jobs by 2022, and 25% manufacturing share in GDP by 2025.
- ➔ **Make in India 2.0 (2021)** focuses on 27 sectors.
- ➔ **Pillars of 'Make in India':** New Processes, New Infrastructure, New Sectors, New Mindset.
- ➔ **Major Initiatives:** PLI Schemes PM GatiShakti, Semicon India programme, National Logistics Policy, etc .

Major Achievements under 'Make in India'

- ➔ Became world's **2nd largest mobile manufacturer** with **99% domestic production**.
- ➔ Improved from **142nd to 63rd in World Bank's Doing Business Report** (2014–2020)
- ➔ FDI inflows increased from **\$45Bn (2015) to \$85Bn (2022)**.
- ➔ Merchandise exports reached **\$437Bn in 2024**.
- ➔ Significant defense exports. E.g., **Dhanush Artillery, MBT Arjun, and LCA Tejas**
- ➔ Climbed **42 spots in Global Innovation Index** since 2015, ranking **39th**.

Concerns with 'Make in India'

- ➔ **Manufacturing sector** still at 17.7% of GDP (2023), below 25% target.
- ➔ **Manufacturing workforce** declined from 51 million (2017) to 35 million (2023).
- ➔ **Manufacturing GVA** growth slowed (2023)
- ➔ FDI as percentage of GDP decreased (2015–2023)
- ➔ **Merchandise exports** fell from 10% to 8% of GDP (2013–14 to 2022–23)

Factors hindering success of Make in India: Over-dependence on foreign capital and markets; Policy unpredictability; Sub-optimal integration in supply-chains; Dominance of unorganized sector; Ill-timed initiative.

Way Forward: Adopt **new technologies (AI, ML)**; Leverage **STEM graduates**; Enhance **academia-industry-government**; Focus on **services and manufacturing-related services**; Leverage **democratic advantage** for innovation

3.6. Poverty in India

Why in the News?

World Bank released a report **offering first post-pandemic assessment of global progress**.

Key findings of the Report

- ➔ Global poverty **reduction slowed** due to 'polycrisis'.
- ➔ Global extreme poverty projected at **7.3% in 2030 (8.5% in 2024)**.
- ➔ **Stalled progress** since pandemic; slowdown in **inclusive income growth**.
- ➔ India: Extreme poverty reduced from **431 million (1990) to 129 million (2024)**.

Factors behind Poverty in India

- ➔ **British exploitative colonial rule** destroyed local industries resulting in poverty.
- ➔ **Fragmented land holdings** and **traditional farming** methods limit yields.
- ➔ **Population explosion** of India as it's set to **peak in early 2060s (at 1.7 billion)**.
- ➔ **Top 10% of Indian population** holds 77% of total national wealth.
- ➔ **India has 53% of women** outside the labour force due to care responsibilities (Social Inequalities).
- ➔ **Challenging terrains and natural disaster-prone** areas contribute to higher poverty rates.

Evolution of Poverty Metrics in India

- ➔ **Pre-Independence:** Dadabhai Naoroji, National Planning Committee (1938), Bombay Plan (1944).

- ➔ **Post-Independence:** Planning Commission (1962), VM Dandekar & N Rath (1971), Alagh (1979), Lakdawala (1993).
- ➔ **Modern Era (Post 2000): Tendulkar (2009) & Rangarajan (2014).**

Key Terminologies Related to Poverty: Absolute Poverty, Relative Poverty, Poverty Rate/Poverty Incidence/Headcount Ratio, Intensity of Poverty, Multidimensional Poverty Index.

India's Poverty Reduction 2013–2023: Poverty Headcount Ratio decreased; ~25 crore Indians escaped poverty; Fastest decline in UP, Bihar, MP, Odisha, Rajasthan; On track to achieve SDG poverty target before 2030

Initiatives: Ayushman Bharat Yojana; PM Garib Kalyan Anna Yojana, Jal Jeevan Mission, PM Jan Dhan Yojana, PM Kaushal, etc.

Way forward: Employment-intensive Sustained Rapid Growth; Effective anti-poverty programs; Investing in people's capabilities.

3.7. Global Innovation Index 2024 and Social Entrepreneurship

Why in the News?

Global Innovation Index (GII) 2024 was released by WIPO, Cornell University, and INSEAD Business School.

- ➔ **World Intellectual Property Organization (WIPO)**
 - ➔ HQ: Geneva, Switzerland.
 - ➔ **Specialized agency** of United Nations, established in **1967**.
 - ➔ **193 members (India is a member since 1975)**.
 - ➔ **Treaties:** Paris Convention for the protection of Industrial Property (1998), Patent Cooperation Treaty (1998), Treaty on intellectual property, Genetic resources and associated traditional knowledge (2024).

GII 2024: Key Findings

- ➔ **Theme:** Unlocking the Promise of Social Entrepreneurship.
- ➔ **Top Ranking:** 1st: Switzerland, 2nd: Sweden, 3rd: United States.
- ➔ **India:** Ranked **39th** among **133 nations**, improving from **40th** in 2023 with a score of **38.3**.
- ➔ **Social Entrepreneurship and Enterprises:** Combines profit-making efficiency with non-profit values to address issues like poverty and sustainability.

Key Differences between Traditional Companies (TC) and Social Enterprises (SE)

- ➔ **Mission:** TC focus on profit maximization, while SE aim to create social value by addressing societal issues.
- ➔ **Utilization of Surplus:** TC reinvest profits for stakeholder gains, whereas SE reinvest surplus to solve social issues.

Impact of Innovation on Social Entrepreneurship

- ➔ **Wider reach:** E.g. Doctors without Borders.
- ➔ **Finance:** like Social Impact Bonds etc.
- ➔ **Creative problem-solving:** E.g. Goodfellows.
- ➔ **Sustainability.** E.g., Circular economy.

Potential/Significance of Social Entrepreneurship

- ➔ **Economic Growth:** Up to **11 million social enterprises** globally contribute around **USD 2 trillion** to GDP; India's market potential is estimated at **US\$ 8 billion by 2025**.
- ➔ **Influencing Policy.**
- ➔ **Sustainable Development.**
- ➔ **Social Transformation:** Empowers vulnerable groups.

Challenges: No Institutional framework and lack of Human capital; Lack of globally recognised standards and definitions and financing.

India's Initiatives to Promote Social Entrepreneurship

- ➔ Atal Innovation Mission (AIM); ASPIRE; Aatmanirbhar Bharat ARISE-ANIC program.
- ➔ **Corporate Social Responsibility (CSR):** Mandated by the Companies Act, 2013.
- ➔ **Social Stock Exchange (SSE).**
- ➔ **Social Impact Bonds:** like Green Bonds and Skill Impact Bonds.
- ➔ **Social Innovation Programme.**

3.8. National Mission on Edible Oils – Oilseeds (NMEO–Oilseeds)

Why in News?

Union cabinet approved **NMEO–Oilseeds for 2024–25 to 2030–31**.

About NMEO–Oilseeds

- ➔ **Aim:** Achieve self-sufficiency in edible oils production
- ➔ **Key targets:** ~70 MT oilseed production; 72% self-sufficiency by 2030–31
- ➔ **Core focus:**
 - Increasing the production of **key primary oilseed crops** like Rapeseed–Mustard, Groundnut, Soybean.
 - Enhancing extraction efficiency from **secondary sources** like Cottonseed, Rice Bran, and Tree Borne Oils.

Major Features

- ➔ **SATHI Portal** for 5–year rolling seed plan with state–agency partnerships
- ➔ **Value Chain Clusters** across 347 districts (10 lakh hectares annually)
- ➔ **Advanced technologies:** Genome editing, high–yield varieties
- ➔ **Infrastructure:** 65 seed hubs, 50 storage units
- ➔ **Support for post–harvest** units and IEC campaigns

Need for Initiative: Second–largest crop category after food grains; Rising demand due to urbanization; Currently import dependent for 57% of domestic demand for edible oils etc.

Other Steps taken: NFSM–OS&OP, NMEO–OP, PM–AASHA, and RKVY–RAFTAAR; MSP for seven oilseeds and 20% import duty; 2024 Budget: Focus on research and market linkages; **Yellow Revolution**.

Challenges: Lower yields vs GM varieties; 76% rainfed cultivation; Regional concentration (83.4% groundnut in 5 states); Growing demand–supply gap; Limited global market share

Way Forward: Develop value chain clusters; Expand to fallow regions; Invest in research, etc.

3.9. News in Shorts

3.9.1. Responsible Capitalism

- ➔ **Need** for responsible capitalism for large economies highlighted by Union Finance Minister
- ➔ Responsible Capitalism (RC): An economic approach that integrates ethical values into business practices.
- ➔ **Measures to promote RC:** CSR, Plastic Waste Management Rules, Code on Wages, Occupational Safety; Health and Working Conditions Code, 2020, RBI's Priority Sector Lending norms, SEBI's Green Bond guidelines, etc.

3.9.2. Annual Survey of Industries (ASI) for FY 2022–23:

- ➔ **Key Highlights:** Manufacturing GVA grew by **7.3% in 2022–23**; **7.4% increase in manufacturing employment**.
- ➔ **GVA:** It is defined as value of output minus value of intermediate consumption GOP and is a measure of the contribution to GDP made by an individual producer, industry or sector.
- ➔ **About ASI:** Presently, ASI 2017–18 is being conducted under **Collection of Statistics (Amendment) Act, 2017** which extends the coverage to **All India**.
 - ➔ **Industries covered:** Bidi and cigar manufacturing establishments; Electricity undertakings not registered with Central Electricity Authority (CEA); Units with 100 or more employees.

3.9.3. Input Tax Credit (ITC):

- ➔ Supreme Court established '**functionality**' and '**essentially**' tests for eligibility in **construction**.
- ➔ ITC is a mechanism to avoid cascading of taxes
- ➔ Allows registered taxable persons to claim credits **under GST Act**.

3.9.4. Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme:

- ➔ Introduced in 2021 by **Ministry of Commerce and Industry**
- ➔ Aims to **refund taxes and duties on exported products**
- ➔ Replaced **previous merchandise exports scheme**

3.9.5. Government notifies Offshore Areas Operating Right Rules, 2024

- ➔ First-ever offshore mineral auction planned for 10 blocks, including sand, lime mud, and polymetallic nodules.

Key Highlights of Rules:

- ➔ Covers all minerals in offshore areas (except oils, hydrocarbons, atomic minerals)
- ➔ Allows lease surrender after 10 years of uneconomic operations
- ➔ Provides priority access to government companies in reserved zones

Offshore Mining and its Significance: Deep Sea mining process retrieves mineral deposits below 200m; Addresses increasing metal demand; Aims to reduce dependence on mineral imports

3.9.6. RBI MIBOR (Mumbai Interbank Outright Rate) Benchmark Report:

- ➔ Introduced by **NSE in 1998**
- ➔ Interest rate benchmark for **unsecured interbank lending**
- ➔ Computed daily by Financial Benchmarks India Pvt. Ltd.
- ➔ Currently based on first-hour trades in NDS-Call system

3.9.7. RBI Study on Monetary Policy Transmission:

About Monetary Policy (MP):

- ➔ **Central bank's mechanism** to achieve sustainable economic growth and price stability
- ➔ **Statutory basis:** RBI Act, 1934 (amended 2016)
- ➔ **Inflation target:** 4% ($\pm 2\%$) till March 2026
- ➔ Tools include **repo and reverse repo rates**

3.9.8. UPI 123 and UPI Lite

- ➔ Enhanced transaction limits for feature phone and low-value transactions
- ➔ **UPI123Pay limit** increased to ₹10,000
- ➔ **UPI Lite transaction** limit increased to ₹1,000

3.9.9. CareEdge Sovereign Credit Ratings (SCR):

- ➔ **First Indian agency** to enter global scale ratings
- ➔ Assigned AAA to Germany, Netherlands, Singapore, and Sweden
- ➔ **India rated BBB+**, with projections for **reducing debt-to-GDP ratio**
- ➔ **About SCR:** Forward-looking assessment of an entity's financial commitment capability; SEBI regulates domestic credit rating agencies.

3.9.10. Global Family Farming Forum (GFFF):

- ➔ **About Family Farming:** Family-managed agricultural production relying on family labor
- ➔ **Significance:** Critical for global food security; 550 million farms worldwide; Produces 70–80% of world's food in value terms
- ➔ **GFFF Launched at** FAO World Food Forum (WFF) & celebrates essential role of family farmers in building sustainable agrifood systems.
- ➔ On the sideline WFF, **Food and Agriculture Organization (FAO) & Global Framework on Water Scarcity in Agriculture (WASAG)**, adopted the Rome Declaration on Water Scarcity in Agriculture.

3.9.11. All India Rural Financial Inclusion Survey (2021–22):

- ➔ **Survey Overview:**
 - ➔ National-level survey tracking rural population's livelihoods and financial inclusion
 - ➔ Launched in 2016–17, second survey provides key economic insights
- ➔ **Key Highlights:**
 - ➔ Household monthly income increased by **~58%**.
 - ➔ Food consumption share reduced from **51% to 47%**.
 - ➔ **Kisan Credit Card** emerged as effective financial instrument.
 - ➔ Landholding size **declined to 0.74 hectares**.
 - ➔ Financial literacy improved from **~40% to ~51%**.
 - ➔ Institutional loan access increased from **60.5% to 75.5%**.
- ➔ **Income Rise Drivers:** Government support through MGNREGA; Female labor force participation increased.

3.9.12. National Electricity Plan (Transmission) Launched

- ➔ Developed by Central Electricity Authority under Electricity Act 2003
- ➔ **Key Highlights:**
 - Target:** 500 GW Renewable Energy Installed Capacity by 2030.
 - Peak demand target:** 458 GW by 2032; Inter-regional transmission capacity to increase to 168 GW.
 - Supports Green Hydrogen and Ammonia Manufacturing hubs.**
 - Cross-border interconnections** with Nepal, Bhutan, Myanmar, Bangladesh, Sri Lanka, etc.
- ➔ **Challenges in India's Transmission System:** Transmission losses; Renewable source integration issues; Obsolete technology; Regulatory focus imbalances; Cybersecurity concerns.
- ➔ **About CEA:** It functions under Electricity Act, 2003.

3.9.13. Central Silk Board

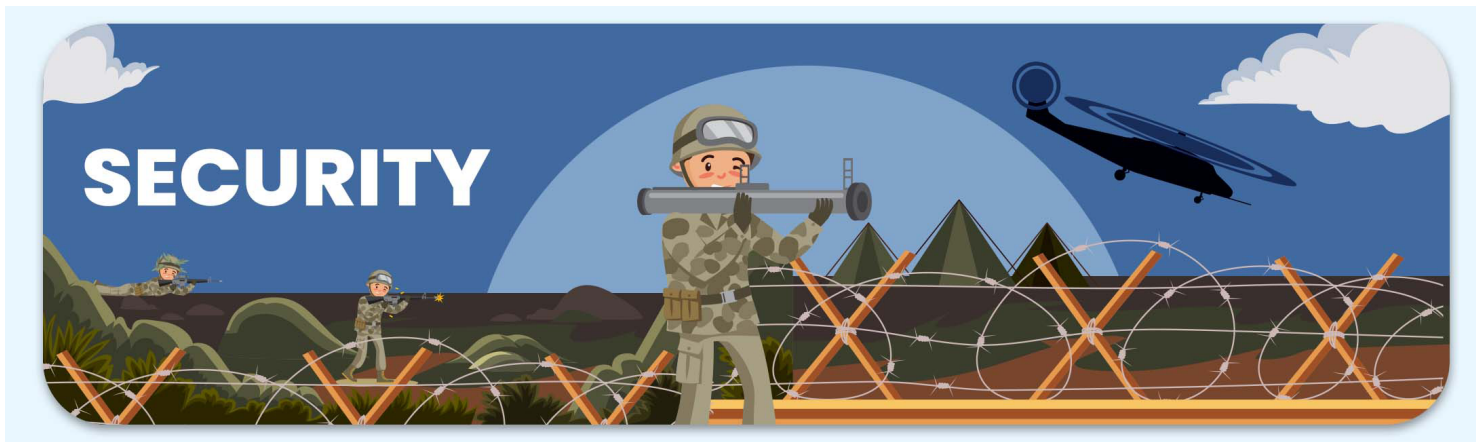
Recently, the platinum jubilee of the Central Silk Board was celebrated.

About Central Silk Board

- ➔ **Statutory body** established in 1948
- ➔ **Ministry:** Ministry of Textiles

About Silk Production in India

- ➔ India is **2nd largest silk producer with 42% of global production (2023)**
- ➔ Karnataka contributed around 32% followed by Andhra Pradesh.
- ➔ **Silk Produced:** Mulberry, Eri, Tasar and Muga.



4.1. AI and Defence

Why in the News?

Evaluating Trustworthy Artificial Intelligence (ETAI) Framework and Guidelines for Indian Armed Forces launched by Chief of Defence Staff.

About ETAI Framework

- A risk-based assessment framework for **integrating reliable emerging technology into defence** operations, providing specific implementation criteria.
- **Five Principles:** Reliability, Safety & Security, Transparency, Fairness & Privacy.

AI in Defence Functions:

- **Supporting:** Intelligence, surveillance, navigation, Command and Control
- **Offensive:** Target selection, strikes, Drone Swarms, AI-driven hacking
- **Cyber defense:** Studying attack patterns, forming protective strategies

Key Applications:

- Autonomous Weapons (e.g., Israeli Harpy drones)
- Enhanced Target Recognition (e.g., Iranian Shahed-136 drones)
- Real-Time Data Analysis (e.g., Project Maven)
- Combat Training (e.g., Sukhoi 30 MKI modules)
- Crime Prediction (e.g., Adversary Network Analysis Tool by BEL)
- Protect Cyber-attacks: E.g. Project Seeker by Indian Army.

Major Issues:

- Non-State Actor threats: E.g; Islamic State issued a guide on how to use generative AI tools.
- Social Engineering risks: Eg; neo-Nazi AI content on social media sites.
- AI-generated malware: e.g., BlackMamba to evade detection.
- No specific international law.
- Privacy violations: E.g. China's facial recognition surveillance system to track Uyghur Muslims.

Key Ethical Challenges

- Automation Bias: Difficulty distinguishing between: Lawful targets & Civilian targets, etc
- Principle of Proportionality: Requires qualitative analysis the Proportionality of military action. -
- System Predictability: Operators may not fully understand AI decision-making.
- Objectification of Human Targets

Indian Initiatives:

- Defence AI Council (DAIC) and Defence AI Project Agency (DAIPA) set up based on **Strategic Implementation of AI for National Security and Defense Task force.**
- 75 AI technologies launched in 2024

International Regulations:

- UN Convention on Certain Conventional Weapons
- First Committee UN Resolution on Lethal Autonomous Weapons (2023)
- UNIDIR Guidelines (2024)
- International Committee of the Red Cross (ICRC) on advocacy for binding norms

Way Forward:

- Strengthen private sector collaboration
- Develop cyber-warfare capabilities
- Establish international laws
- Create arms control regime for AI
- Define responsible military AI principles

4.2. News in Shorts

4.2.1. GlobE Network

India elected to the steering committee of **GlobE (Global Operational Network of Anti-Corruption Law Enforcement Authorities) network.**

Key Points:

- **Established:** 2021 at **UN General Assembly Special Session against Corruption (UNGASS)**
- **Framework:** Launched under G20, following **2020's Riyadh Initiative**
- **Objective:** Enables anti-corruption law enforcement authorities to collaborate on transnational corruption cases
- **Administration:**
 - ➔ Governed by members
 - ➔ **Secretariat:** **United Nations Office on Drugs and Crime (UNODC)**
 - ➔ Current strength: 121 member countries and 219 law enforcement authorities
- **India's Representation:**
 - ➔ **Central Authority:** Ministry of Home Affairs
 - ➔ **Member Authorities:** CBI and ED (Enforcement Directorate)

4.2.2. Non-Kinetic Warfare

Parliamentary Standing Committee on Defense to study India's preparedness for Non-Kinetic Warfare

About Non-Kinetic/Hybrid Warfare:

- Goes beyond traditional military tactics
- **Components:** Electronic warfare, cyber, information, psychological and economic operations
- Can include non-military stakeholders
- Often more lethal than traditional warfare
- Can achieve victory before conventional combat begins
- **Examples:** **Cyber-attacks** on critical infrastructure, using laser/electromagnetic waves **instead of physical weapons.**

Recent Examples:

- Pager blasts in Lebanon

- Also witnessed during Russia-Ukraine, Israel-Palestine Conflicts.

India's Strategic Challenges:

- **Hostile Neighbours:** Pakistan (Western front); China (Northern/North-Eastern fronts)
- **Non-state actors** (Hezbollah)
- Internal stability (Naxal insurgency)
- Emerging technologies (AI)

Initiatives taken by India

- **Developing advanced weapons: DURGA-II Project** (by DRDO)
- **Structural Reforms:** Chief of Defense Staff (CDS), Defence AI Project Agency (DAIPA) etc
- **International Partnerships:** E.g. General Security of Military Information Agreement (GSOMIA) with USA
- **Other:** Defence indigenisation, etc.

4.2.3. DefConnect 4.0

Organized by: Innovations for Defence Excellence Defence Innovation Organisation (iDEX-DIO), Ministry of Defence

Key Initiatives Launched:

- **ADITI 2.0 (Acing Development of Innovative Technologies with iDEX)**
 - ➔ 19 challenges from Armed Forces and allied agencies
 - ➔ Domains: AI, Quantum Technology, anti-drone systems
 - ➔ Grant: Up to ₹25 crore for winners
 - ➔ Focus: 30 Critical and Strategic defence technologies
- **DISC 12 (Defence India Start-up Challenges)**
 - ➔ 41 challenges in UAVs, AI, Networking and Communication
 - ➔ Grant: Up to ₹1.5 crore for selected innovations
 - ➔ Partnership: Atal Innovation Mission
 - ➔ Purpose: Support start-ups, MSMEs, and innovators
- **MIRA (Medical Innovations and Research Advancement)**
 - ➔ Focus: Medical technologies for Armed Forces

Other Initiatives for Defence Technology Absorption

- Amendment to Defence Acquisition Procedure 2020
- Signals Technology Evaluation and Adaptation Group (STEAG)
- Indian Naval Indigenisation Plan (20152030)

About iDEX Scheme:

- Launched: 2021 by **Ministry of Defence**
- Implementation: DIO (not-for-profit company)
- Funding:
 - ➔ Regular: Up to ₹1.50 Cr
 - ➔ iDEX Prime: Up to ₹10 Cr

Achievements: 26 products developed with procurement orders exceeding ₹1,000 crore

4.2.4. 31 MQ-9B drones from US and Nuclear Attack Submarines Deal Cleared

MQ-9B Drones:

- **Type:** High Altitude Long Endurance Unmanned Aerial Vehicles
- **Capabilities:**
 - ➔ 40-hour satellite-guided flight
 - ➔ Multi-domain targeting (land, sea, air)

- Surveillance and precision strikes
- ⇒ **Two variants:**
 - 16 SkyGuardian
 - 15 SeaGuardian (for Army and Air Force)
- ⇒ **Strategic Significance:**
 - Enhanced surveillance (especially along LAC)
 - Strengthens military modernization
 - Improves Indo-US defense partnership

Nuclear Attack Submarines (SSNs):

- ⇒ **Purpose:** Anti-submarine warfare, surface operations, intelligence gathering
- ⇒ **Key Features:**
 - Armed with torpedoes/cruise missiles
 - Superior speed and stealth
 - Extended underwater endurance
 - No ballistic missiles
- ⇒ **Benefits:**
 - Strengthens naval deterrence
 - Enhances underwater combat capability
 - Promotes indigenous manufacturing (Make in India)

4.2.5. ABHED (Advanced Ballistics for High Energy Defeat)

- ⇒ **Developer:** DRDO with IIT Delhi
- ⇒ **Type:** Lightweight Bulletproof Jackets
- ⇒ **Materials:** Polymers and indigenous boron carbide ceramic
- ⇒ **Design:** Based on high strain rate material characterization

4.2.6. Indigenous Akashteer Systems

- ⇒ **Status:** Indian Army acquired 100 units
- ⇒ **Type:** Air Defence Control and Reporting Systems (ADCRS)
- ⇒ **Developer:** Bharat Electronics Limited (BEL)
- ⇒ **Purpose:** Monitors low-level airspace, real-time threat response

4.2.7. Very Short Range Air Defence System

- ⇒ **Developer:** DRDO (Research Centre Imarat)
- ⇒ **Type:** Man-portable air defence system (MANPAD)
- ⇒ **Features:**
 - 4th Generation technology
 - Indigenously developed
 - Dual thrust solid motor
 - Uncooled imaging infrared seeker
- ⇒ **Purpose:** Neutralize low-altitude aerial threats
- ⇒ **Status:** Successfully flight-tested at Pokhran

4.2.8. Dragon Drone used in Russia-Ukraine War

- **Key Feature:** unmanned aerial vehicle that releases **thermite (aluminum and iron oxide mixture)**
- **Effects:**
 - ➔ Self-sustaining reaction
 - ➔ Nearly impossible to extinguish
 - ➔ Causes severe burns and bone damage
- **Legal Status:** Thermite not banned, but usage in civilian areas prohibited by UN's Convention on Certain Conventional Weapons.

4.2.9. THAAD Missile Defense System

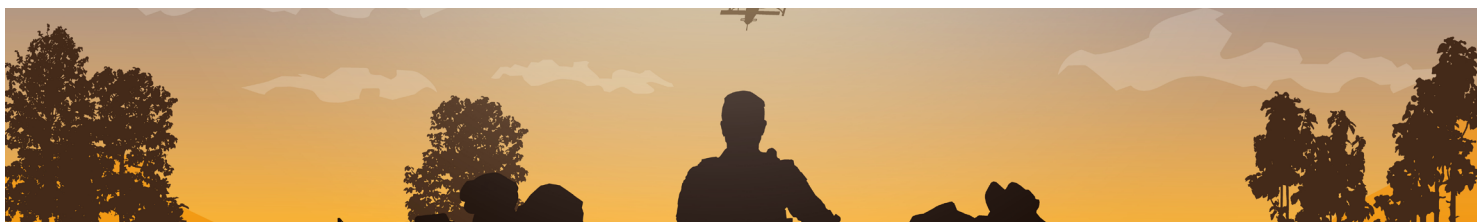
- **Developer:** Lockheed Martin Corporation
- **Capabilities:**
 - ➔ Counters short, medium, and intermediate-range missiles
 - ➔ Only US system for both exo and endo-atmospheric interception
 - ➔ Uses "hit-to-kill" technology
- **Components of THAAD Battery:** 95 soldiers, truck-mounted launchers, interceptors, radar systems
- **Note:** India uses Russian S-400 Triumf system

4.2.10. Hellfire Missile

- **Status:** India acquiring 170AGM-114R units from US
- **Type:** Air to Ground Missile (AGM)
- **Features:**
 - ➔ Range: Short Range (7-11 km)
 - ➔ Semi-Active Laser guided
 - ➔ Multi-purpose warhead
 - ➔ Multiple launch platforms (aircraft, UAV etc.)
- **Purpose:** Neutralize various targets (air defence, boats, armor)

4.2.11. Exercises in News

- **KAZIND-2024**
 - ➔ **Type:** India-Kazakhstan Annual Joint Military Exercise
 - ➔ **Location:** Auli, Uttarakhand
 - ➔ **Edition:** 8th
- **Exercise Malabar 2024**
 - ➔ **Type:** Annual maritime exercise
 - ➔ **Participants:** Australia, Japan, USA, India
 - ➔ **Format:** Harbor and sea-based
- **Naseem-Al-Bahr**
 - ➔ **Participants:** Indian Navy and Royal Navy of Oman
 - ➔ **Location:** Goa



ENVIRONMENT



5.1. Jal Hi Amrit

Why in the News?

'Jal hi Amrit' launched under **AMRUT 2.0** (Atal Mission for Rejuvenation and Urban Transformation 2.0).

About Jal hi Amrit (JHA)

- ➔ Aims to create **"Water-Secure Cities"**
 - ➔ **Incentivizes States/UTs** for management of **Sewage Treatment Plants**.
 - ➔ To produce **continuous supply of high-quality treated water**.
 - ➔ **Promotes circular economy of water**.
- ➔ **Strategy: Uses rating-based incentives** through **Clean Water Credits**.
- ➔ **Rationale:** Recycling and reusing treated used water.
 - ➔ Reducing the **stress on freshwater resources**.

About AMRUT

	AMRUT 1.0	AMRUT 2.0
Launch Year	2015	2021
Duration	2015-2020	2021-2026 (5 years)
Coverage	500 cities and towns	All statutory towns
Focus Areas	Water supply, sewerage and septage management, non-motorized urban transport, etc.	Universal coverage of water supply through functional taps to all households.

About Water Recycling & Reuse

- ➔ **Definition:** Water from a variety of sources then treats and reuses it for beneficial purposes.
- ➔ **Sources of water for potential reuse:** Municipal wastewater, industry process etc.
- ➔ **Water Reuse Technology:** Membrane Bioreactor (MBR); Ultrafiltration (UF); Reverse Osmosis (RO); Disinfection Technologies (uv/ozone/ Advanced Oxidation); Electrodialysis Reversal (EDR) ; Thermal Evaporation/ Crystallization

Benefits of Water Recycling & Reuse

- ➔ **Environmental benefits:**
 - ➔ Decreases freshwater diversion
 - ➔ **Saves energy:** E.g., Reusing treated wastewater in irrigation reduces GHG emissions.
 - ➔ **Recharges groundwater:** E.g., Treated water in **Bengaluru** is used to recharge **shallow aquifers**.
 - ➔ Enhances wetlands and Riparian (Stream) habitats.

➔ Socio-economic benefits:

- ➔ Increases water availability for **arid areas**.
- ➔ Provides water source for industry and agriculture. **E.g., Haryana's Kurukshetra** repurposes treated water for agriculture use.
- ➔ Improves agriculture through nutrient-rich (carbon, phosphorus and nitrogen) water.

Challenges:

- ➔ Treating water to a precise specification: to remove oils, salts etc. before reuse.
- ➔ High treatment costs
- ➔ **Water recycling is energy intensive.**
- ➔ **Membrane fouling and maintenance challenges**
- ➔ **Absence of proper guidelines**
- ➔ **Social stigma** wrt acceptance of 'toilet-to-tap'.

India and Water Recycling & Reuse Current situation:

- ➔ 31% households lack piped water
- ➔ 67% not connected to sewage system
- ➔ **Irrigation:** Largest user 78% of total reserve.
- ➔ India has 18% of world's population but 4% of water resources
- ➔ Average per capita water availability for **2031: 1367 cubic meters**.
- ➔ Potential to treat 80% of wastewater

Key Measures:

- ➔ **National Framework on Safe Reuse of Treated Water (2022)**
- ➔ **Power Tariff Policy 2016**
- ➔ **National Water Policy-2012**
- ➔ **Zero Liquid Discharge Guidelines**
- ➔ **Schemes: SBM-U 2.0, Arth Ganga initiatives**

Way Forward

- ➔ Set water reuse benchmarks
- ➔ **Incentivize R&D** in water treatment technologies.
 - ➔ **Subsidize dual plumbing systems and offer property tax rebates**
 - ➔ **Implement tiered volumetric pricing structure**
- ➔ Facilitate PPPs to develop and maintain wastewater treatment infrastructure.
- ➔ Implement **tradable water-use credits**

5.2. Hyperlocal Weather Forecasting

Why in the News?

CoS-it-FloWS (Community-Sourced Impact-based Flood Forecast and Early Warning System) launched in Kerala's Periyar and Chalakudi river basins.

About CoS-it-FloWS

- ➔ Project run by **Equinoct (Kochi based modelling solutions provider)**.
- ➔ Community-sourced flood forecast system
- ➔ Recognized by UNICEF's Climate Tech Cohort, it uses 100 rain gauges installed across Ernakulam, Idukki, and Thrissur.
- ➔ Data collected by students, women, youth
- ➔ Aims to plug government data gaps

About Hyperlocal Weather Forecasting

- **Concept:** Pinpoints weather conditions in localized areas
 - ➔ IMD currently forecasts at district level
- Needed due to high weather variability in tropical regions

Significance of Hyperlocalised Weather Forecasting

- **Disaster preparedness**
- Safeguard agricultural livelihoods
- India's IMD serves as UN Early Warning for All advisor to five countries.
- Better Traffic Management in Urban areas.

Key Challenges

- Outdated prediction models like Global Forecasting System and **Weather Research and Forecasting (WRF)**.
- Limited ground stations: IMD has 800 automatic weather stations, 1,500 automatic rain gauges, 37 doppler weather radars (DWRs)
 - ➔ Requires 3,00,000 ground stations, 70 DWRs
- 20,000 ground stations with inaccessible data
- Difficult to predict small-scale events like cloudbursts.

Key Initiatives

- Gram Panchayat-Level Weather Forecasting.
- Mission Mausam to enhance India's Weather and Climate Forecasting by 2026.
- Weather Information Network and Data System (WINDS).
- IFLOWS-Mumbai by **Ministry of Earth Sciences**,
- Mumbai Flood App by IIT Bombay,

Conclusion

Need comprehensive approach to upgrade models, expand monitoring, foster data-sharing, develop real-time systems to improve forecast accuracy and prepare for extreme weather.

5.3. News in Shorts

5.3.1. State of Global Water Resources Report by WMO

Key Findings

- **Hottest Year:** 2023
- **Soil Moisture:** Predominantly below normal globally
- **Rivers:** Driest year in 33 years in 2023
- **Specific Impacts:**
 - ➔ **Lake Coari (Amazon):** Extremely low water levels
 - ➔ **Glaciers:** Largest mass loss in five decades

5.3.2. 5th National Water Awards (NWA) presented by President

Key Facts

- **Nodal Ministry:** Ministry of Jal Shakti.
- **Aim:** Water awareness and best practice motivation
- **Categories:** 9
- **2024 Winners:**
 - ➔ **Best State:** Odisha
 - ➔ **Best Urban Local Body:** Surat, Gujarat

5.3.3. Guidelines for Prevention and Regulation of Greenwashing and Misleading Environmental Claims, 2024 notified

They are furtherance to the **Guidelines for Prevention of Misleading Advertisement, 2022**.

Key Provisions of the Guidelines

- **Defines greenwashing:** Deceptive or Misleading environmental claims involving:
 - ➔ Concealing relevant information
 - ➔ Exaggerating environmental impacts
 - ➔ Making unsubstantiated claims
- **Applicability:** All environmental claims, a manufacturer, service provider, product seller, advertiser etc.
- **Substantiation of Environmental claim:**
 - ➔ Use consumer friendly language
 - ◊ Explain meaning of technical terms like Environmental Impact Assessment (EIA).
 - ➔ Provide verifiable evidence
 - ➔ Independent studies and third-party certification.
- **Adequate Disclosures:**
 - ➔ For easy accessibility.
 - ➔ Avoid selectively presenting data.
- **Aspirational Claims:**
 - ➔ Permitted only with clear, actionable plans

5.3.4. 7th EnviStats India 2024: environment Accounts

- **Released By:** Union Ministry of Statistics and Programme Implementation (MoSPI)
- **Framework:** System of Environmental-Economic Accounting (SEEA)
- **Four Focus areas:** Energy Accounts, Ocean Accounts, Soil Nutrient Index and Biodiversity.

Key Highlights: EnviStats India 2024

- **India** emerged as **world leader in energy transition**.
- **Protected Areas (2000-2023):**
 - ➔ 72% increase in number.
 - ➔ 16% increase in area.
- **Mangrove Coverage:** 8% increase (2013-2021)

Significance

- Sustainable resource management
- Balancing economic growth with environmental sustainability
- Alternative prosperity measurement
- Data-driven policymaking

System of Environmental-Economic Accounting (SEEA)

- International framework for environment-economic accounts
- Describes economy-environment interactions
- Two sides of SEEA:
 - ➔ **SEEA-Central Framework (SEEA-CF):** Measures environmental assets. E.g. Timber, Water, Fish etc
 - ➔ **SEEA-Ecosystem Accounting (SEEA-EA):** Measures ecosystem services. E.g. Forests, Rivers, Coral reef etc

Environment Accounting in India

- **Implementing Agency:** National Statistical Office under MoSPI
- **Initiatives:**
 - ➔ Strategy for Environmental Economic Accounts (2022-26)

- Participated in NCAVES (Natural Capital Accounting)
- India also participated in 'Natural Capital Accounting and Valuation of Ecosystem services (NCAVES)'.
- NCAVES: launched by United Nations Statistics Division (**UNSD**), **UNEP and Secretariat of CBD in 2017.**
- 🔗 **First EnviStats Release: 2018** (Partha Dasgupta Committee recommendations)

5.3.5. '2024 Forest Declaration Assessment: Forests under fire' Report Released

Key Facts

- 🔗 **Report focuses** on tracking the overarching forest goals.
- 🔗 **By International Commitments:**
 - New York Declaration on Forests (2014)
 - Glasgow Leaders' Declaration (2021)
 - Kunming-Montreal Global Biodiversity Framework (2022)

Global Forest Goals and Progress

- 🔗 **Eliminate deforestation by 2030:**
 - Deforested 6.37 million hectares (Target: 4.38 million)
 - 3.8 billion metric tons CO2 equivalent
 - ◊ Making deforestation **fourth-highest emitter after China, US and India.**
- 🔗 **Eliminate tree cover loss in forested Key Biodiversity Areas (KBAs):** 1.4 million hectares forest loss in Key Biodiversity Areas.
- 🔗 **Controlling Forest Fire:** One-third of fire area since 2001 burned in 2019-23.
- 🔗 **Restore 30% of degraded and deforested landscapes by 2030:** Only 18% of Bonn Challenge's 2020 restoration target of 150 million hectares met.

Deforestation Drivers

- 🔗 **Commodity Production:** 57% of global deforestation
- 🔗 **Shifting Agriculture:** 15.9 million hectares of primary forest loss from 2015-23.
- 🔗 **Mining:** Tropical forest ecosystem mining doubled (2000-19)

Recommendations

- 🔗 **Forest Protection Hierarchy:** Preserve primary and intact ecosystems as highest conservation priority.
- 🔗 **Ecosystem Restoration:** Large scale efforts to restore 30% of degraded ecosystems.
- 🔗 **Fire Management:** Acknowledge human-induced fire pattern changes; Implement proactive mitigation techniques etc.
- 🔗 **High-Value Conservation Areas:** Focus on Key Biodiversity Areas (KBAs); Integrate conservation efforts at global and national levels etc.

5.3.6. European Union Deforestation Regulation (EUDR)

European Commission has proposed to **extend the implementation of the EUDR, by one year.**

About EUDR

- 🔗 **Aim:** Ensure key goods placed on the EU market will no longer contribute to the deforestation in the EU and elsewhere in the world.
- 🔗 **Covered Products:** Palm oil, soy, beef, cocoa, and timber.
- 🔗 **Compliance Requirements:**
 - Verify product origin
 - Ensure sustainable production
 - Barrier for non-compliant exporters

5.3.7. Biodiversity Credits

- **Definition:** Economic instrument that **allows private companies to finance** activities for environmental conservation.
- **Purpose:** Net-positive impact on nature and biodiversity
- **Operational Mechanism**
 - ➔ **Credit Generation:**
 - ◊ Stakeholders conserve/restore land
 - ◊ Create "certificates"
 - ➔ **Credit Utilization:**
 - ◊ Private companies purchase credits
 - ◊ Meet biodiversity commitments

5.3.8. Greening of Antarctica

Plant cover across Antarctic Peninsula increasing due to climate crisis.

- **About Greening of Antarctica:**
 - ➔ **Vegetation growth of moss:** on ice-dominant continent during extreme heat waves
 - ➔ **Warming:** significantly faster than global average, accelerating 2016–2021
- Vegetation:** expanded tenfold between 1986 and 2021
- **Impact**
 - ➔ **Invasive species:** Potential introduction threatening local wildlife.
 - ➔ **Climate effect:** Reduced sunlight reflection (albedo), intensifying climate change.

5.3.9. Coordination Committee for Air Quality Management in IGP region

Union Government establishes panel for air quality management in Indo-Gangetic Plain.

- **Ten-member panel:** covering Bihar, Chandigarh, Delhi, Haryana, Jharkhand, Punjab, Uttar Pradesh, West Bengal
- **Addresses:** high baseline air pollution through regional airshed management
- **Develops and monitors:** IGP Regional Airshed Management Plan

5.3.10. PM-Surya Ghar: Muft Bijli Yojana

Centre notifies guidelines for 'Innovative Projects' in solar technology under **PM-Surya Ghar: Muft Bijli Yojana**.

- **Ministry of New and Renewable Energy** has notified operational guidelines to promote rooftop solar advancements

About Innovative Projects Component

- **Objective:** Support startups, institutions in piloting new solar concepts
- **Key focus on emerging solutions** like blockchain-based peer-to-peer solar trading
- **Eligibility:** Any entity, individual, international collaboration
- **Tenure:** Maximum 18 months
- **Funds:** ₹500 crore, up to 60% project cost or ₹30 crore
- **Implementation:** National Institute of Solar Energy (NISE)

About PM Surya Ghar: Muft Bijli Yojana (2024)

- **Nodal Ministry:** Union Ministry of New and Renewable Energy.
- **Duration:** Till financial year 2026–27.
- **Objective:** To install rooftop solar (RTS) and provide free electricity for up to 300 monthly units for 1 crore households.
- **Subsidy Benefits:** Provides 60% of the solar unit cost for systems up to 2 kW capacity and 40% of additional system cost for systems between 2 to 3 kW capacity.

5.3.11. World Energy Outlook 2024 by international Energy Agency

Key Observations

- Geopolitical tensions pose major risks to energy security
 - ➔ Strait of Hormuz critical: 20% of global oil and LNG supplies pass through
- Clean energy surging: 560 gigawatts of new renewable capacity in 2023
- Low-emission sources to generate over half global electricity before 2030

5.3.12. India joins International Energy Efficiency Hub (IEEH)

Bureau of Energy Efficiency (BEE) designated as implementing agency

About IEEH

- Established in 2020 as successor to International Partnership for Energy Efficiency (IPEEC) (India was a member)
- Global platform fostering international collaboration on energy efficiency

5.3.13. Global Framework on Chemicals (GFC) Fund

First project call launched for safe and sustainable chemicals and waste management.

About GFC Fund

- Established at fifth International Conference on Chemicals Management (ICCM5) in Bonn, Germany, 2023
- Executive Board includes UN regional representatives and donors
- Complements existing environmental financial mechanisms like Global Environment Facility etc.
- Objectives
 - ➔ Support: low and middle-income countries in chemicals and waste management
 - ➔ Target medium-scale projects: strengthening national chemical management capabilities
 - ➔ Financial Support:
 - ◇ 300,000 to 800,000 USD per project
 - ◇ Funding through voluntary contributions
 - ◇ Duration up to three years

GFC (Bonn Declaration)

- Multi-sectoral agreement with 28 targets
- Aims to:
 - ➔ Prevent illegal trade
 - ➔ Eliminate hazardous pesticides in agriculture by 2035
- Focus on protecting environment and human health

Other Global Initiatives

- Strategic Approach to International Chemicals Management (SAICM)
- Basel Convention: To regulate transboundary movement and disposal of hazardous wastes.
- Stockholm Convention: To protect human health and environment from effects of persistent organic pollutants.

5.3.14. Ecomark Rules, 2024

Recently, Union Ministry of Environment, Forest and Climate Change notified Ecomark Rules, 2024.

Key Features

- Promotes eco-friendly product categories: food, cosmetics, soaps, electronics etc.
- Aligns with LIFE (Lifestyle for Environment) principle

- Focuses on sustainability and resource efficiency

Rules notifies

- **Granting Criteria:** Must meet **Bureau of Indian Standards Act and/or Quality Control Orders.**
 - ➔ Evaluated for environmental impact and resource consumption
- **Application Process:** Through **Central Pollution Control Board**
- **Validity:** Three years
- **Oversight:** Steering Committee led by Environment Secretary

Significance

- Enables informed consumer choices
- Encourages manufacturers to develop eco-friendly products
- Promotes circular economy
- Prevents misleading environmental claims
- Supports lower energy consumption and resource conservation

Other Environmental Certification

- **Indian Forest & Wood Certification Scheme**
 - ➔ **Voluntary third-party certification** for sustainable forest management
 - ➔ Includes forest management and chain of custody certifications
 - ➔ Provides market incentives for responsible practices

5.3.15. IUCN Report on Agriculture and Conservation

Impact of Agriculture on Biodiversity

- **Negative Impacts:**
 - ➔ 34% of species on IUCN Red List directly threatened
 - ➔ Direct threats include habitat conversion, land use changes
 - ➔ Indirect impacts via invasive species, agrochemicals, soil erosion
- **Positive Impact:**
 - ➔ 17% of Red List species have documented agriculture-related habitats

Impact of Biodiversity on Agriculture

- **Positive Impact:** Ecosystem Support Services via
 - ➔ **Provisioning services:** Biomass and genetic material production
 - ➔ **Regulating services:** Climate regulation, Nutrient cycling etc.
- **Negative Impact:** Ecosystem disservices such as crop predation, pests and pathogens.

Recommendations for Aligning Agriculture with Conservation

- **Agriculture Sustainability:** Protect critical species and habitats; Preserve ecosystem's natural balance, etc.
- **Ecosystem Services Preservation:** Support agricultural productivity through ecological integrity.
- **Policy Alignment:** Integrate conservation into agricultural and economic policies.
- **Food System Transformation:** Reduce food wastage, Promote reduced meat consumption etc.

5.3.16. Biennial Living Planet Report Released By World Wildlife Fund (WWF)

Key Findings

- Wildlife population dropped 73% (1970-2020)
- Heaviest declines in freshwater populations
- **Causes:** Habitat loss, climate change, invasive species

India-Specific Insights

- Global adoption of India's consumption patterns would require less than one Earth by 2050
- Praised for:
 - ➔ Andhra Pradesh Community-Managed Natural Farming
 - ➔ Millet mission

5.3.17. Kaimur Wildlife Sanctuary (KWS)

National Tiger Conservation Authority's (NTCA) approved KWS as Bihar's second tiger reserve after Valmiki Tiger Reserve. NTCA: statutory body under Wildlife (Protection) Act of 1972.

About KWS

- **Location:** Kaimur Hills plateau between the Son River (south) and Karmanasa River (west).
 - ➔ Spread over Central highlands (include Satpura-Maikal hills and Vindhya-Bagelkhand hills)
 - ➔ Linked to: **Bandhavgarh-Sanjay-Guru Ghasidas-Palamau tiger landscape.**
- **Fauna:** Leopards, wild boars, sloth bears
- **Forest Type:** Northern Tropical Mixed Dry Deciduous

5.3.18. Indian Wild Ass

10th Wild Ass Population Survey conducted by Gujarat Forest Department reveals significant growth.

Indian Wild Ass (*Equus hemionus khur*)

- **Population Increase:** 26.14% (6,082 to 7,672 in 2024)
- **About:** One of the **five subspecies** of the **Asiatic wild ass**, referred to as 'Ghudkhur'.
- **Habitat:** presently only restricted to **Little Rann of Kutch, Gujarat**
- **Characteristics:** Solitary, Shy; Horns found only in adult males.
- **Conservation Status:**
 - ➔ Near Threatened (IUCN)
 - ➔ Schedule I (Wildlife Protection Act)
 - ➔ Appendix I (CITES)

5.3.19. Nile Basin

Landmark agreement on water resource use takes effect amid Egyptian opposition.

Nile Basin Overview

- World's longest river
- Spans nearly 10% of African continent's landmass
- Traverses 11 countries from south to north
- **2 Main Tributaries:**
 - ➔ White Nile (from Burundi and Rwanda)
 - ➔ Blue Nile (from Ethiopia)
- **Other Tributaries:** Sobat River, Atbara River, Bahr el Ghazal etc.



5.3.20. Volcanic Eruption & Ionospheric Disturbances

Indian Institute of Geomagnetism reveals volcanic impacts on space weather.

Key Scientific Findings

- **Ionospheric Disturbance:** Volcanic eruptions generate **atmospheric gravity waves**
 - ➔ Trigger **Equatorial Plasma Bubbles (EPBs)** which are **depletions in ionospheric plasma density.**
- **Potentially disrupt satellite communication systems**

Volcanism Overview

- **Definition:** Opening in Earth's crust releasing lava, ash, gases
- **Recent Eruptions:**
 - ➔ Mount Ruang (Indonesia, 2024)
 - ➔ Whakaari/White Island (New Zealand, 2024)
- **Positive Impacts:**
 - ➔ Temporary atmospheric cooling
 - ➔ Geothermal energy generation
 - ➔ Soil fertility improvement
 - ➔ Mining opportunities
 - ➔ Tourism potential
- **Negative Impacts:**
 - ➔ Climate system disruption
 - ➔ Potential tsunami generation (**E.g. Tonga eruptions (2022)**)
 - ➔ Damage to lives, property, landscapes

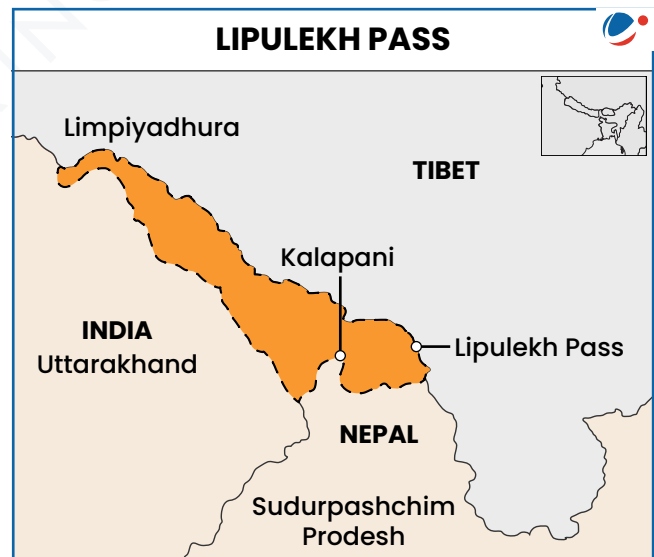
5.3.21. Lipulekh Pass

First batch of pilgrims viewed **Mount Kailash** (abode of Lord Shiva) from **Old Lipulekh pass**.

- Previously, pilgrims had to travel to Tibet Autonomous Region (TAR).

About Lipulekh Pass

- **Location:** Above Kalapani valley, Tri-junction of India, Nepal, and TAR (China).
 - ➔ Situated in **Vyas valley, Pithoragarh district, Uttarakhand**
 - ➔ Inhabited by: **Bhutiya people**
- **Significance:** Ancient trade and pilgrimage route.
 - ➔ **Closure:** Sealed in 1962 due to Chinese incursion concerns
 - ➔ **Reopened:** 2020



SOCIAL ISSUES



6.1. Mental Health among Adolescents

Why in the News?

WHO and UNICEF released the 'Mental Health of Children and Young People - Service Guidance' report on World Mental Health Day (10th October).

Key Findings

- ➔ One-third of mental health conditions emerge before 14, and half before 18.
- ➔ Around 15% of adolescents aged 10-19 experience mental health conditions.
- ➔ Suicide is the fourth leading cause of death for 15-19-year-olds.

Determinants of Mental Health Conditions among Adolescents

- ➔ **Immediate Triggers:** Financial loss, grief, academic failure, or public humiliation, e.g., suicides in IITs and Kota coaching classes.
- ➔ **Social Media Influence:** Linked to poor sleep, depression
- ➔ **Social Isolation:** Dysfunctional family dynamics, hormonal changes
- ➔ **Biological Factors:** Genetic predispositions, gender differences (girls with less social support face higher risks)

Indian Initiatives for Adolescent Mental Health

- ➔ **Mental Health Care Act 2017:** Ensures rights and access to mental health care.
- ➔ **Tele-MANAS:** Offers 24/7 tele-counseling and mental health services.
- ➔ **MANODARPAN:** Provides psychosocial support to students and families.
- ➔ **SAATHI Program:** CBSE initiative for mental health awareness.

Global Initiatives for Adolescent Mental Health

- ➔ **HAT Initiative:** Joint WHO-UNICEF program to strengthen adolescent mental health po
- ➔ **mhGAP:** WHO's program to address mental disorders globally since 2008.
- ➔ **Global Coalition for Youth Mental Health:** UNICEF initiative to improve public investment in youth mental health (currently only 2.1% of health budgets globally).

Way Forward

- ➔ Integrating mental health into primary health care
- ➔ Designing Community Based Mental Health Services
- ➔ Digital interventions like WHO's Chatbot

6.2. Child Marriage in India

Why in the News?

The Supreme Court, in response to a petition by the Society for Enlightenment and Voluntary Action, issued comprehensive guidelines to prohibit child marriage.

Status of Child Marriage in India (NFHS-5)

- ➔ **23.3%** of women (20–24 years) and **17.7%** of men (25–29 years) married before legal ages.
- ➔ Prevalence reduced from **47% (2006)** to **23.3% (2019–21)** but remains high in states like Bihar, Rajasthan, and West Bengal.
- ➔ NCRB reported an increase in cases under the Prohibition of Child Marriage Act, 2006 from **395 (2017)** to **1050 (2021)**.

Reasons for Prevalence of Child Marriages in India

- ➔ **Poverty and Resource Scarcity:** Early marriages reduce financial burdens, including dowries.
- ➔ **Cultural Beliefs:** Marriages preserve family honor and prevent premarital relationships.
- ➔ **Gender Inequality:** Girls are viewed as economic burdens; early marriage shifts responsibility.
- ➔ **Educational Neglect:** Lack of investment in girls' education limits aspirations and resistance.
- ➔ **Legal Gaps:** Weak enforcement and poor awareness contribute to ongoing cases.

Measures Taken by the Government

- ➔ **Prohibition of Child Marriage Act (PCMA), 2006:** Sets legal marriage ages and appoints Child Marriage Prohibition Officers (CMPOs).
- ➔ **Juvenile Justice Act, 2015:** Protects children at risk of early marriage.
- ➔ **Beti Bachao Beti Padhao Scheme:** Focuses on gender equality preventing child marriage.
- ➔ **National Action Plan to Prevent Child Marriage:** Strengthens data collection, awareness, and inter-governmental coordination.
- ➔ **CHILDLINE (1098):** A 24/7 service to report and address child marriage cases.

Way Forward

- ➔ **SC Guidelines**
 - ➔ Legal Enforcement at district level.
 - ➔ Empowering Magistrates to take Suo Moto Action.
 - ➔ Adoption of the Child Marriage Free Village Initiative.
 - ➔ Comprehensive Sexuality and Rights Education.

6.3. Global Hunger Index

Why in the news?

Released by Concern Worldwide and Welt Hunger Hilfe

Key findings of the GHI

Global Findings:

- ➔ Hunger affects 42 countries at alarming levels, making Zero Hunger by 2030 unattainable.
- ➔ World's GHI score is 18.3 (moderate severity).
- ➔ Strong link between gender inequality, climate change, and hunger.

India Related findings:

- ➔ Ranks 105th out of 127 countries, in "serious" category.
- ➔ GHI score: 27.3
- ➔ Persistent issues with child wasting and stunting.

GHI scores are based on following indicators-

- ➔ Undernourishment
- ➔ Child stunting (low height relative to age)
- ➔ Child wasting (low weight for height)
- ➔ Child mortality before 5 years of age.

Key issues with GHI

- ➔ Methodological concerns: Three of four indicators focus on child health
- ➔ Outdated data sets and small sample sizes

Factors Behind Hunger Crisis

- ➔ **Conflict:** 70% of 309 million people facing acute hunger in unstable regions
- ➔ **Climate crisis** destroying crops and livelihoods
- ➔ **Poor economic conditions** limiting social protection
- ➔ **Displacement creating** food insecurity. Eg Darfur Area in Sudan

Factors behind Malnutrition in India

- ➔ Increased sale of ultra-processed food has increased due to urbanization.
- ➔ High prevalence of Anemia among girls and mothers.
- ➔ Low education levels among mothers

Initiatives taken for Tackling Hunger in India

- ➔ **PMGKAY:** Free food grains for 80 crore poor
- ➔ **POSHAN Abhiyan:** Improving nutrition for children and women
- ➔ **National Food Security Act**
- ➔ **Eat right movement**
- ➔ **Integrated Child Development Scheme**

Initiatives taken for Tackling Global Hunger

- ➔ UN SDG 2 (Zero Hunger)
- ➔ World Food Programme
- ➔ Zero Hunger Challenge
- ➔ International declarations and organizational efforts

6.4. National Health Accounts Estimates

Why in the news?

Union Ministry of Health and Family Welfare released National Health Account (NHA) estimates for 2020-21 and 2021-22.

About National Health Accounts Estimates

- ➔ NHA estimates started in 2013-14, envisaged in 2002 Health Policy
- ➔ Provides detailed financial flow analysis of India's health system
- ➔ Prepared using System of Health Accounts, 2011 guidelines

System of Health Accounts (SHA) 2011

- ➔ Global standard framework for health account comparisons
- ➔ Classifies health expenditures across consumption, provision, and financing
- ➔ Collaborative effort by OECD, WHO, and Eurostat

Key findings of NHA Estimates for India

Total Health Expenditure (THE)

- ➔ Increased to 3.83% of GDP from 3.31%

- ➔ Per capita expenditure rose to Rs. 6,602 from Rs. 4,297

Government Health Expenditure (GHE)

- ➔ Increased to 48% of THE from 40.8%

Other Key Indicators

- ➔ **Current Health Expenditures** decreased to 87.3%
- ➔ **Out-of-pocket expenditures** reduced to 48.8%
- ➔ **Private health insurance expenditures** increased to 7.4%
- ➔ **External funding** increased to 1.1%

6.5. Digital Health

Why in the News?

Ayushman Bharat Digital Mission (ABDM) completes three years of enabling Digital Health.

About Ayushman Bharat Digital Mission (ABDM)

- ➔ Aims to connect digital health solutions across hospitals
- ➔ Provides digital consultation and patient consent
- ➔ Key principles include inclusivity, voluntary participation, and privacy

Components of ABDM Architecture

- ➔ ABHA ID: Unique 14-digit health record number
- ➔ Healthcare Professionals and Facility Registries
- ➔ Health Information Exchange and Consent Manager
- ➔ Unified Health Interface and National Health Claims Exchange

About Digital Health

- ➔ WHO defines as **technology-driven health improvement**
- ➔ Includes electronic **health records, telemedicine, AI, and digital health technologies**

Significance of Digital Health

- ➔ Enables seamless medical record sharing
- ➔ Helps manage chronic diseases
- ➔ Creates comprehensive medical history repositories
- ➔ Facilitates treatment for critically ill patients

Concerns

- ➔ Privacy and security risks
- ➔ Algorithmic bias
- ➔ Unequal access to digital technologies
- ➔ Lack of standardization in digital health systems

Way Forward

- ➔ Ensure the Intelligent Health Solution is evaluated across a diverse user base.
- ➔ Improve digital skills among medical teachers and students.
- ➔ Code of ethics to be framed.



6.6. News in Shorts

6.6.1. Un Women Released 'World Survey on the Role of Women in Development' Report

Theme: Harnessing social protection for gender equality, resilience and transformation

Need for Gender Responsive Social Protection (GRSP)

- ➔ Addresses gender-specific risks and vulnerabilities
- ➔ Focuses on women's limited access to resources and decision-making

Key Findings

- ➔ Two billion women and girls lack social protection
- ➔ Over 63% of women give birth without maternity benefits
- ➔ Gender risks worsened by conflict, climate change, and economic shocks

Key Recommendations

- ➔ **Address gender gaps** in existing social protection systems
- ➔ **Improve coordination** with employment policies
- ➔ **Adapt policies for women** during crises
- ➔ Implement **rights-based social protection** delivery

Initiatives taken by India:

- ➔ MGNREGA
- ➔ PM Matru Vandana Yojana
- ➔ PM Ujjwala Yojana

6.6.2. E-Migrate Portal

Ministry of External Affairs and Labor & Employment launched e-Migrate portal and mobile app.

About e-Migrate Portal

- ➔ **Online platform for managing Indian workers'** overseas employment migration
- ➔ **Provides comprehensive services** to migrant workers
- ➔ **Offers 24/7 multilingual helpline** and Digilocker integration
- ➔ **Connects foreign employers**, recruitment agents, and insurance companies
- ➔ **Promotes safe and legal migration**

Key Features

- ➔ Secure document storage
- ➔ Paperless immigration clearance
- ➔ Unified platform for migration stakeholders

6.6.3. PM YASASVI

Ministry of Social Justice and Empowerment highlighted **PM-YASASVI's impact**.

About PM-YASASVI

- ➔ Umbrella scheme for educational support
- ➔ Targets Other Backward Classes, Economically Backward Classes, and Denotified Tribes
- ➔ Subsumed earlier Dr. Ambedkar Post-Matric Scholarship Scheme

Key Objective

- ➔ Provide quality education to socially and economically disadvantaged students

6.6.4. Government Extends Supply of Fortified Rice Across Welfare Schemes Until 2028

Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) to supply free fortified rice

About Fortified Rice

- ➔ Adding micronutrients like Iron, Folic Acid, Vitamin B12 to rice
- ➔ Cost-effective method to combat malnutrition
- ➔ Ideal for 65% of India's population

Schemes Covered

- ➔ Targeted Public Distribution System
- ➔ Integrated Child Development Services
- ➔ PM POSHAN
- ➔ Other welfare programs nationwide

Key Details

- ➔ Launched in 2022
- ➔ Completed three-phase rollout by March 2024
- ➔ 100% centrally funded
- ➔ Covers 81.35 crore National Food Security Act beneficiaries



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7.1. Nobel Prize in Chemistry 2024

Why in the News?

Nobel Prize 2024 awarded to David Baker for Computational Protein Design (CPD), Demis Hassabis and John Jumper for protein structure prediction

David Baker's Computational Protein Design (CPD)

- CPD aims to create new proteins (synthetic proteins) with novel functions or properties not found in nature.
- **Potential Applications:** Creating more effective Vaccines and eco-friendly nano materials, **Developing bio- sensors, Waste Management** (Enzymatic degradation of plastic), etc.

Demis Hassabis and John Jumper Protein Structure Prediction

- Both used AI to solve predicting of **proteins' complex structures**, which determine their functions.
 - Better structure prediction aids in areas like **drug design**, understanding **antibiotic resistance**, etc.

About Proteins

- One of the **four major types of biomolecules** (the other three being carbohydrates, lipids and nucleic acids).
- Composed of 20 naturally occurring **amino acids**.
- **Collagen** and **Ribulose biphosphate Carboxylase-Oxygenase (RuBisCO)** are the most abundant proteins in animal world and the whole of the biosphere, respectively.
- **Key Functions:**
 - Provide **structure** and **support** for cells. E.g., Actin
 - Proteins act as **enzymes** to **catalyse** biochemical reactions. E.g., **amylase**
 - Some proteins function as **hormones**. E.g., Insulin
 - Bind and **carry atoms** and **small molecules** within cells and throughout the body. E.g., Ferritin

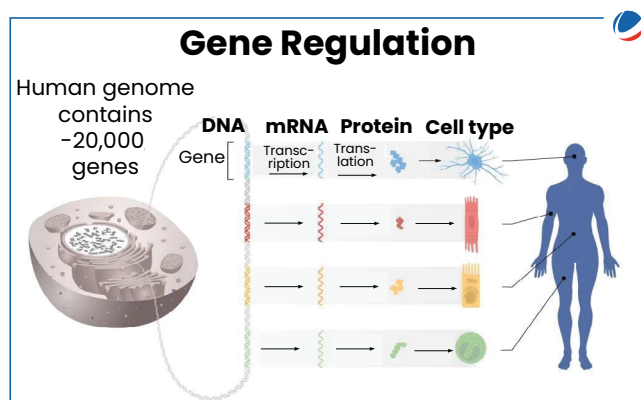
7.2. Nobel Prize in Medicine 2024

Why in the News?

Nobel Prize 2024 Awarded to Victor Ambros and Gary Ruvkun for the discovery of **microRNA** and its role in **post-transcriptional Gene Regulation**.

About MicroRNA (miRNA)

- A small **non-coding RNA** that helps cells in regulating **gene expression**.
- Controls gene expression by **binding with messenger RNA (mRNA)** and preventing them from **being translated into proteins** or by **degrading/destroying mRNA** altogether.
- Regulation by microRNA is universal among multicellular organisms.



About Gene Regulation

- A process used to control the **timing, location and amount in which genes** are expressed to respond to environmental changes

Significance/Application of the Discovery

- **Understanding Cellular Development:** E.g. Self-renewal and differentiation of stem cells
- **Immune Response:** Regulate innate and adaptive immune responses.
- **Oncogenesis:** To avoid healthy cells conversion to cancer cells.
- **Disease diagnostics:** E.g. Cancer

About Ribonucleic Acid (RNA)

- A nucleic acid that is present in the majority of living organisms and viruses.
- Made up of **nucleotides** and phosphate groups.
 - Nitrogenous bases include **adenine, guanine, uracil, and cytosine.**
- RNA mostly exists in the single-stranded form.

7.3. Nobel Prize in Physics 2024

Why in the News?

Nobel Prize 2024 awarded to **John J. Hopfield and Geoffrey Hinton** for discoveries that enables **Machine Learning (ML) with Artificial Neural Networks (ANNs)**.

Discoveries

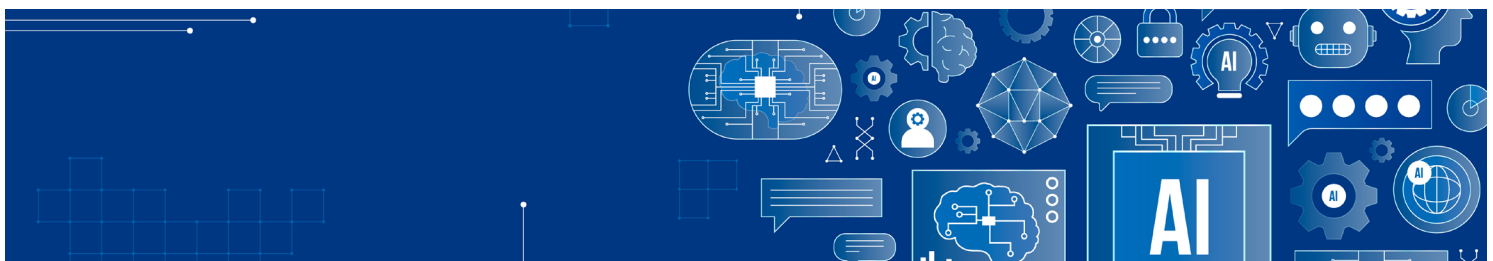
- **J.J.Hopfield** invented **Hopfield network**, a type of **recurrent neural network** that can store and reconstruct information.
- **Geoffrey Hinton** invented **Boltzmann machine** that can independently **discover properties** in data and create new patterns or examples based on what it has learned.

About Artificial Neural Networks (ANNs)

- A ML program or model that makes decisions in a manner **similar to the human brain**.
- **Made of artificial neurons or nodes** that work together to solve a problem.
- **ANN structure** contains Input layer for processing of information, Hidden layer for analysis and Output layer for result.
- **Major types of ANN:**
 - **Deep Neural Networks:** Neural networks with many layers
 - **Convolutional Neural Networks (CNNs):** Used primarily in computer vision and image classification applications.
 - **Recurrent Neural Networks (RNNs):** Used in natural language and speech recognition applications
 - **Generative Adversarial Networks (GANs):** Used to create new data resembling the original training data.

Machine Learning

- A component of **AI** that focuses on using data and algorithms to **enable AI to imitate the way that humans learn**, gradually improving its accuracy.
 - **Neural Networks or ANNs** are commonly used, specific class of ML algorithms.
- **Applications of ML:**
 - **Research & Scientific Advancement:** E.g. Discovery of Higgs particle
 - **Natural Language Processing (NLP):** Automatic Speech Recognition or speech-to-text or Generative AI.
 - **Computer Vision:** Deriving meaningful information from digital visual inputs like images, videos.



7.4. BharatGen Programme

Why in the News?

BharatGen Programme has been launched by **Ministry of Science and Technology**

About BharatGen Programme

- ➔ A **Multimodal Large Language Model (LLM)** project focused on creating **Generative AI** systems that can generate high-quality text and multimodal content (audio and imagery) in **various Indian languages**.
 - ➔ It will be an **open source platform**.
- ➔ **Aim and Purpose:** Revolutionize **public service delivery through AI, etc.**
- ➔ **Implementing Agency:** TIH Foundation for IOT and IOE under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS).
- ➔ **Timeline:** Expected to be completed in two years (July 2026).
- ➔ **Bharat Data Sagar:** Aims at establishing a vast repository of India-centric data
- ➔ **Significance :**
 - ➔ First government-funded LLM project focused on Indian languages.
 - ➔ Promotes **AI as public good** and **Inclusive AI** with the vision of **Atmanirbhar Bharat**.

About Generative AI and Large Language Models (LLMs)

- ➔ **Generative AI:** Creates original content—such as text, images, video, audio or software code in response to a user's prompt or request.
 - ➔ Generative AI tools are built on underlying AI models, such as a LLM.
 - ➔ Relies on **deep learning models**
- ➔ **LLMs:** A category of foundation models (large AI models) **capable of understanding and generating natural language**.

7.5. Space Docking Experiment (SPADEX)

Why in the News?

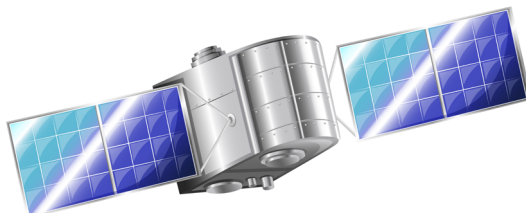
A private firm handed over two 400 kg class satellites to ISRO to take part in **Space Docking Experiment (SPADEX)** planned at the **end of 2024**.

About Space Docking

- ➔ Space docking involves **precise connection of two spacecraft** to operate as a single unit.
- ➔ **Objective:** Facilitate tasks such as refuelling, repair, and crew exchange.

About SPADEX

- ➔ A **Technology demonstration experiment** aimed at mastering **autonomous docking**.
- ➔ Two satellites named '**Chaser**' and '**Target**' will be launched.
- ➔ **Satellites will perform complex maneuvers: Autonomous Rendezvous and Docking, Formation Flying, and Remote Operations**
- ➔ **Challenges:** Complex Docking Mechanism, Sensor Reliability (harsh environment will affect), Space debris threat, microgravity effects, data transfer and communication stability, etc.
- ➔ **Significance for India:**
 - ➔ Essential for Chandrayaan-4, Bharatiya Antariksha Station etc.
 - ➔ **Private Sector Participation** (First instance of complete satellite integration by a private company)
 - ➔ **Other:** International collaboration opportunities, Longevity of Geostationary Satellites, future interplanetary missions, etc.



7.6. Space-Based Surveillance

Why in the News?

Cabinet Committee on Security (CCS) approved the third phase of the **Space-based Surveillance (SBS-3)** project.

About SBS-3 Project

- ➔ Includes 52 satellites in Low Earth Orbit (LEO) and Geostationary Orbit (GEO)
- ➔ Satellites will be at different orbits, based on AI, and will be able to “interact with each other in space to gather geo-intelligence
- ➔ Successor of SBS-1 (2001) and SBS-2 (2013).

About Space-based Surveillance (SBS)

- ➔ Involves the use of satellites and other space assets to monitor and collect data on objects and activities in space and on Earth.
- ➔ Components: Electro-Optical Satellites; Ground Control Stations; Space Surveillance Networks; and Tracking and Telemetry Systems.

Significance of Space-based Surveillance (SBS)

- ➔ National Security and Defence: E.g., India’s EMISAT satellite.
- ➔ Space traffic management and collision avoidance: ISRO’S NETRA
- ➔ Protection of Space assets: Mission Shakti ASAT test (2019)
- ➔ Environmental monitoring and disaster response: E.g. CARTOSAT satellites used by India.
- ➔ Scientific research and data collection: data on cosmic phenomena and Earth observations.

Key Concerns

- ➔ Dual Use Technology (SBS can be used for both peaceful and military purposes)
- ➔ Potential for Militarization and arms race in Space
- ➔ Legal and Regulatory Gaps: Outer space treaty 1967 does not address Space based surveillance
- ➔ Other: Space Debris and Collisions, Violations of privacy etc.

Key Global measures to regulate SBS: Outer space treaty (1967), Registration Convention (1976), UN Space Debris Mitigation Guidelines (2007), Artemis Accords (2020) etc.

7.7. Unified Genomic Chip

Why in the News?

Prime Minister launched **Unified Genomic Chip** and **indigenous sex-sorted semen technology**

About Unified Genomic Chip

- ➔ A **Single Nucleotide Polymorphism (SNP)** chip.
 - ➔ SNP refers to a variation in a DNA sequence where a single nucleotide is different from the reference sequence
- ➔ Designed for **genomic profiling** and **evaluation** of **Indian cattle breeds**.
 - ➔ **Variants of the chip:** **Gau** chip for cattle and **Mahish** chip for buffaloes
- ➔ **Developed by:** Consortium led by the Department of Animal Husbandry and Dairying (DAHD), Ministry of Animal Husbandry, Dairying and Fisheries.

About Sex-sorted Semen Technology

- ➔ Sex Sorted Semen is the ‘gender selected’ semen used in **Artificial Insemination (AI)**.
- ➔ 90% accuracy for female calves.
- ➔ Manufactured by **National Dairy Development Board (NDDB)** under Make in India and Atmanirbhar Bharat

About Genetic/Breed Improvement

- Involves selecting/promoting animals with **superior traits**.
- Involves different techniques such as **Artificial Insemination, In-Vitro Fertilization (IVF), Embryo transfer technology (ETT), etc.**
- **Need:**
 - Building a **disease free** closed herd
 - Developing **climate-tolerant** and disease-resistant breeds, etc.
- **Key Challenges:** Five to six generations needed to up-grade the level of improved breed, Lack of semen production centers and research institutes, etc.
- **Key Initiative Taken:**
 - **Rashtriya Gokul Mission** (2014)
 - **IndiGau** (India's first Cattle Genomic Chip)
 - Breed improvement under **National Livestock Mission (NLM), 2014**, etc.

7.8. Drug Quality in India

Why in the News?

Central Drugs Standard Control Organisation (CDSCO) directed manufacturers of 49 medicines to recall their products.

Regulation of Drugs in India

- **Drugs and Cosmetics Act (DCA), 1940 and Drugs and Cosmetics Rules, 1945**
- DCA 1940 provides for establishment of Drugs Technical Advisory Board (DTAB), Drugs Consultative Committee (DCC), etc.
- **CDSCO** is the Central Drug Authority
- State Drug Regulatory Authorities (SDRAs)

Issues with Drug Quality

- **Weak Enforcement:** Absence of any Single Regulatory Agency
- **Challenges to State-Level Authorities (SLAs):** E.g. ill equipped testing labs
- **Non Compliance with Standards:** Not adhering to WHO- Good Manufacturing Practices (GMP) standards
- **Financial Disbursement:** Complicated system of funding
- **Information Asymmetry:** No timeframe, absence of national database, absence of records etc.
- **Other:** Limited reach of **Pharmacovigilance**, etc.

Way Forward: Uniform drug regulatory standards, Need to prioritize and invest in regulatory resources, Leveraging **digital technologies** for **monitoring** and **pharmacovigilance** etc.

7.9. Anti-Microbial Resistance (AMR)

Why in the News?

Global leaders have approved a political declaration on antimicrobial resistance (AMR) in the 79th United Nations General Assembly (UNGA) High-Level Meeting.

Declaration called for

- **Global multisectoral action** that needed to reach targets by 2030 (reducing estimated 4.95 million annual human deaths by 10%)
- 70% of antibiotics should belong to **WHO Access group antibiotics**, etc.

About AMR

- AMR is a condition when **microorganisms change** in ways to render medicines ineffective
- Major **factors contributing to AMR:**
 - **Pharmaceutical Manufacturing:** Industrial waste from production of Active Pharmaceutical Ingredients (APIs) for antibiotics.

- **Agriculture:** Overuse of antibiotics
- **Healthcare Facilities:** Improper management of unused medications, etc.
- **Waste Management:** E.g. Landfill leachate

Why AMR is a Global Health threat?

- **Economic cost** (Could result in US\$ 1 trillion additional healthcare costs by 2050 (World Bank))
- Widespread **environmental contamination**
- **Impact on Vulnerable Populations**
- **Limited R&D** for alternatives

Key Initiative Taken

- **Global**
 - **Global Action Plan on Antimicrobial Resistance (GAP)** and **Global Antimicrobial Resistance Surveillance System (GLASS)** by WHO
 - **One Health Global Leaders Group on Antimicrobial Resistance - Tripartite** collaboration of WHO, FAO and World Organisation for Animal Health (OIE).
- **India**
 - **National Action Plan on AMR (NAP -AMR)**, 2017
 - National AMR surveillance network of state medical college labs (NARS-Net)
 - **Other:** Red Line campaign, Ban on inappropriate fixed dose combinations (FDCs), etc.

Way Forward: Implementing WHO Guidance on Wastewater and Solid Waste Management for Antibiotic Manufacturing, Adopting **One Health Approach**, **Strengthening Regulations** (Environment (Protection) Amendment Rules, 2019) and Sustainable farming practices.

7.10. News in Shorts

7.10.1. Atoms4Food

Bhabha Atomic Research Centre (BARC) Participated in International Atomic Energy Agency (IAEA) Scientific Forum 'Atoms4Food'.

About Atoms4Food

- **Genesis:** Jointly launched by IAEA and FAO.
- **Purpose:**
 - **Harness the advantages of nuclear techniques and other advanced technologies** to enhance agricultural and livestock productivity, etc.
 - **Boost food security and to tackle growing hunger.**
 - ◇ **Nearly 600 million** people are projected to be **chronically undernourished by 2030 (FAO)**.
 - ◇ **By 2050 the world's population** will have **increased by one-third**, mostly in developing countries (UN).

Nuclear Technologies for agriculture

- **Irradiation technique:** Extends shelf life of foods
- **Fallout radionuclide (FRN) technique:** Measure erosion patterns
- **Cosmic-ray neutron sensor (CRNS) technology:** Measures soil moisture
- **Radioimmunoassay (RIA) technology:** Enables precise timing for artificial insemination.
- **Sterile insect technique (SIT):** Controls pests
- **Other technologies:** Nitrogen-15 to measure nitrogen fixation in roots; etc.

7.10.2. Major Atmospheric Cherenkov Experiment (MACE) Observatory

Department of Atomic Energy (DAE) inaugurated the MACE Observatory at Hanle, Ladakh.

About MACE Observatory

- Largest imaging **Cherenkov telescope in Asia** and **2nd largest in the world**.
- Located at an altitude of ~4,300 m, the highest of its kind in the world.
- **Objective:** Observe **high-energy gamma rays** to understand the most energetic phenomena in the universe (such as supernovae, black holes, and gamma-ray bursts).
- Built by **BARC** with the support from other partners.

What are Gamma Rays?

- Gamma rays have the **smallest wavelengths** and the most energy of any wave in the electromagnetic spectrum.
- **Sources:**
 - **In the universe**, such as neutron stars and pulsars, supernova explosions, and regions around black holes.
 - **On Earth**, generated by nuclear explosions, lightning, and the activity of radioactive decay.

Why Hanle in Ladakh is chosen for observatory?

- **Hanle Valley** of Changthang (4250m above msl), the site is a dry, cold desert with sparse human population.
 - It has **Cloudless skies** and **low atmospheric water vapour**.
- In 2022, the Hanle Dark Sky Reserve (HDSR) was notified for astro-tourism.

7.10.3. Neutrino Fog

LUX-ZEPLIN (LZ) (USA) **dark-matter detector** failed to identify any definite particle behind the dark matter due to presence of 'Neutrino Fog'.

- **Dark matter** is the invisible stuff making up most of the mass in the universe.

About Neutrino fog

- Refers to the **background noise** (interference) created by the vast number of neutrinos produced in the universe, particularly from cosmic sources like the Sun, supernovae, etc.
 - These neutrinos **interact very weakly with matter**, making them difficult to detect, but they are everywhere, permeating the universe.

7.10.4. Charon

Carbon dioxide and hydrogen peroxide detected on **Charon (Pluto's moon)** using **NASA's James Webb Telescope**.

About Charon

- **Largest among five moons of Pluto**.
 - Pluto is a **dwarf planet**.
- Pluto and Charon orbit each other like a double planet due to big size of latter.

7.10.5. Sky Shield

Switzerland joins **European Sky Shield Initiative (ESSI)**.

About ESSI

- A German led **European Iron Dome-style defence system**.
- **Aim:** Bolstering Europe's defence against air strikes.
- **Members:** 21 member states.
- Initiative centers around the **Arrow 3, an Israeli-American missile defense system**.

7.10.6. Global Strategic Preparedness, Readiness And Response Plan (SPRP)

WHO launched SPRP.

About SPRP

- ➔ **Aim:** To tackle **dengue and other Aedes-borne arboviruses** (Zika and chikungunya) by fostering a **global coordinated response**.
- ➔ Aligned with the **Global Vector Control Response 2017–2030 and Global Arbovirus Initiative**.

7.10.7. Revamped Pharmaceutical Technology Upgradation Assistance Scheme (RPTUAS)

Department of Pharmaceuticals (DoP) has modified RPTUAS.

- ➔ It has increased incentive for **pharmaceutical companies to Rs 2 crore** (from Rs 1 crore).

About RPTUAS

- ➔ **Objective:** Support the pharmaceutical industry's **upgradation to Revised Schedule-M & WHO's good manufacturing practices standards**.
- ➔ **Introduced more flexible financing options**, emphasizing subsidies on a reimbursement basis.

7.10.8. International Medical Device Regulators Forum

CDSCO under Union Ministry of Health & Family Welfare has become an **affiliate member of the International Medical Device Regulators Forum (IMDRF)**.

About IMDRF (2011)

- ➔ Group of **global medical device regulators** to accelerate the **harmonization and convergence of international medical device regulations**.
- ➔ **Members** include national regulatory authorities from different countries and the **WHO**.

7.10.9. Trachoma

India became third **country in the South-East Asia Region** to eliminate Trachoma, a Neglected Tropical Diseases (NTD).

- ➔ WHO earlier declared India free from two other NTDs (**Guinea Worm disease (2000) and Yaws (2016)**).

About Trachoma

- ➔ An **eye infecting disease** caused by infection with bacterium **Chlamydia trachomatis**.
 - ➔ It is contagious disease and can cause **irreversible blindness**.
- ➔ **Interventions for Trachoma:** National Programme for Control of Blindness & Visual Impairment (NPCBVI), etc.

7.10.10. Anusandhan National Research Foundation (ANRF) Launches Pmecrg And Maha-EV Initiative

Prime Minister Early Career Research Grant (PMECRG)

- ➔ Aims to position **India as a leader in science and technology** by providing a flexible budget
- ➔ **Significance:** Foster high quality innovative research; expand knowledge boundaries, etc.

Mission for Advancement in High-Impact Areas -Electric Vehicle (MAHA-EV)

- ➔ **Development of key EV technologies to reduce dependency on imports** and promote domestic innovation
- ➔ Emphasis will be on three critical technology verticals i.e. Tropical EV Batteries and Battery Cells, Power Electronics, Machines, and Drives and EV Charging Infrastructure.

About ANRF

- Established under **ANRF Act 2023** and operates under **Department of Science & Technology**.
 - Science and Engineering Research Board is subsumed into ANRF.
- Act as an apex body to seed, grow and promote R&D and foster culture of research and innovation.

7.10.11. National Centre of Excellence (NCOE) For AVGC-XR

Union Cabinet Approves NCoE for **Animation, Visual Effects, Gaming, Comics, and Extended Reality (AVGC-XR)**.

- NCoE will boost the **creative economy in India**.

Features of NCoE

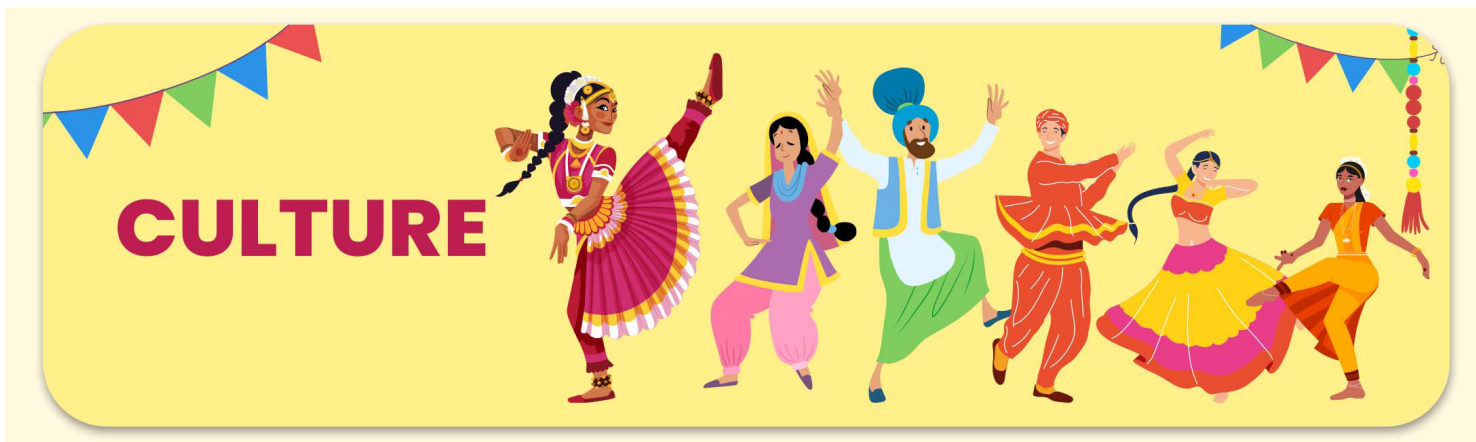
- **Section 8 Company** under the Companies Act, 2013.
- Provisionally named as the **Indian Institute for Immersive Creators (IIIC)**.

Benefits

- **Exponential growth potential** (has an estimated value of ₹46 billion (2023))
- **Playground of various immersive technologies** (e.g. Virtual Reality (VR))
- **Creation of indigenous intellectual property (IP)**
- **Employment Opportunities** (expected to generate 5,00,000 jobs)
- **Enhance India's soft power and FDI**

7.10.12. Space Missions/ Programme in News

Mission/Programme	Key Details
Europa Clipper (NASA)	<ul style="list-style-type: none"> → Aims to determine whether Europa (Jupiter's Moon) has conditions that could support life. → Largest spacecraft that has been ever developed by NASA for a planetary mission.
Lunar Polar Exploration Mission (LUPEX)	<ul style="list-style-type: none"> → Aims to investigate the quantity and quality of water on the Moon and is envisaged to explore the dark side of the moon. → Agencies involved JAXA, NASA, and ESA.
RISE (Remove Debris In-Orbit Servicing) Mission	<ul style="list-style-type: none"> → First in-orbit servicing mission of European Space Agency (ESA) for creating a circular economy in space. <ul style="list-style-type: none"> → Circular economy aims to minimize waste and maximize resource efficiency.
Moonlight Programme	<ul style="list-style-type: none"> → Launched by ESA → Aims to provide services for >400 moon missions planned by space agencies and private companies over the next two decades.



8.1. Classical Language

Why in the News?

The Union Cabinet recently granted Classical Language status to Marathi, Pali and Prakrit, Assamese, and Bengali.

About Classical Language

- **Creation:** Introduced in 2004, with the Linguistic Experts Committee (LEC) by Ministry of Culture under Sahitya Akademi examining proposals.
- **Recognized Languages:** Tamil (2004), Sanskrit (2005), Telugu and Kannada (2008), Malayalam (2013), and Odia (2014).

Criteria for Declaring Classical Language

- **High Antiquity:** history of 1500–2000 years.
- **Heritage Literature:** texts valued by generations of speakers.
- **Knowledge Texts:** Includes prose, poetry, epigraphical, and inscriptional evidence.
- **Distinctiveness:** Classical forms may differ from or be discontinuous with their modern versions.
- **2024 Update:** The 'original literary tradition' norm was dropped from the revised 2005 criteria.

About New Classical Languages

- **Prakrit:** Ancient Indo-Aryan languages used by the masses;
 - ➔ Significant in inscriptions (Ashokan), Buddhist, and Jain literature.
 - ➔ Pali is one of the prakrit.
 - ➔ Other Important Prakrit Language: Ardhamāgadhī, Saurasena and Maharastri (official language of the Satvahanas).
- **Pali:** Linked to Magadhi Prakrit; language of the Theravada Buddhist canon and Tipitaka (Vinaya, Sutta, Abhidhamma) texts.
- **Marathi:** Derives from Maharashtri Prakrit; modern forms date back to 739 CE copper inscriptions.
- **Bengali & Assamese:** Trace origins to Magadhi Prakrit, the language of Magadha's courts.

Benefits of Conferring Classical Language Status

- **Financial Assistance:** Boosts research, preservation, and academic exploration.
- **Documentation & Conservation:** Supports digitization and accessibility of ancient texts.
- **Cultural Identity:** Strengthens linguistic pride and awareness.
- **Employment generation.**
- **Establishment of study centers.**

Steps Taken to Promote Classical Languages

- **Dedicated Institutions for Sanskrit, Telugu and Kannada.**
- **National Education Policy, 2020**
- **UGC Support for creation of professional chairs in Central Universities.**
- **National Mission for Manuscripts**

8.2. Kartarpur Sahib Corridor

Why in the News?

India and Pakistan have agreed to extend the validity of the Agreement on Sri Kartarpur Sahib Corridor for another five years.

About Dera Baba Nanak – Sri Kartarpur Sahib Pilgrimage

Location:

- Gurdwara Sri Kartarpur Sahib is in Narowal district, Pakistan, 4.5 km from the border near Dera Baba Nanak, Punjab.
- Village Kartarpur lies on the west bank of River Ravi; Dera Baba Nanak is on the east bank.

About Agreement on Sri Kartarpur Sahib Corridor

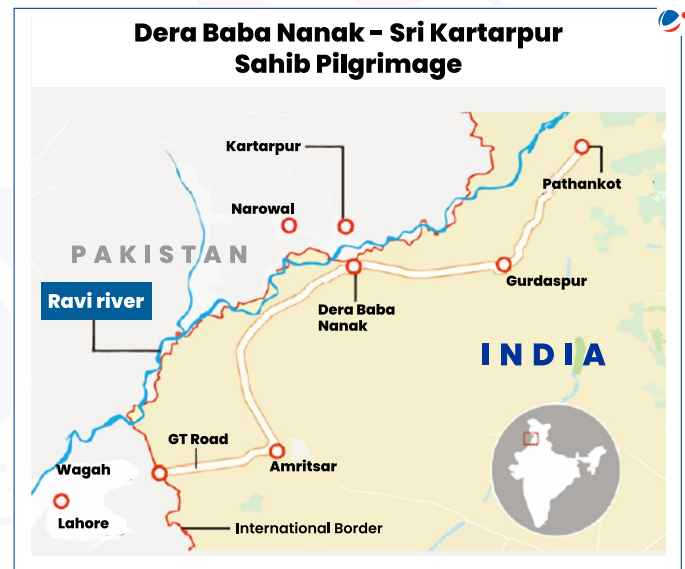
- Signed in 2019 for 5 years.
- Allows visa-free travel for Indian pilgrims and OCI cardholders
- Requires same-day return
- Pakistan charges USD 20 per visit

Important Sikh Pilgrimage Places

- Gurdwara Janam Asthan (Nankana Sahib, Pakistan)
- Gurudwara Ber Sahib (Sultanpur Lodhi, Punjab)
- Akal Takht & Golden Temple (Amritsar)
- Takhts: Sri Keshgarh Sahib (Anandpur), Sri Damdama Sahib (Talwandi Sabo), Sri Patna Sahib (Bihar), Sri Hazur Sahib (Nanded, Maharashtra).

Significance of Kartarpur Sahib Corridor

- **Cultural:** Final resting place of Guru Nanak
- **Religious:** Site where three pillars (Kirat Karo, Vand Chhako and Naam Japo) of Sikhism were practiced.
- Promotes **heritage tourism**
- **Symbol of unity** between India and Pakistan



8.3. New Flag, Insignia and Lady Justice at Supreme Court

Why in the News?

Recently new flag, insignia of supreme court and a statue of lady justice was unveiled.

About Lady Justice

- Originated from Greek-Roman mythology as goddess Justitia
- Traditionally depicted with scales, sword, and blindfold (added in 14th century)

Significance of New Lady Justice Statue

- Represents decolonization
- Open eyes symbolize that **law is not blind and it 'sees' everyone equally.**
- Constitution replaces sword, emphasizing supremacy of constitutional values.
- Retained scales to show impartial judgment.



About Flag and Insignia of Supreme Court

- Designed by NIFT Delhi
- Features: Ashok Chakra, Supreme Court building, Constitution
- **Insignia has** Navy blue color with Sanskrit motto "Yato Dharmastato Jayah"



8.4. News in Shorts

8.4.1. Nobel Prize in Literature

South Korean author **Han Kang** won the Nobel Prize in Literature for her poetic prose

About Nobel Prize

- Established by Alfred Nobel in 1895, first awarded in 1901, and given annually.
- **6 Categories:** Peace, Physics, Chemistry, Medicine, Literature, and Economic Science.
 - ➔ The Economic Sciences award was added in 1968 by Sweden's central bank.
- Since 1974, the Nobel Prize cannot be awarded posthumously unless the recipient dies after the announcement.

8.4.2. Nobel Peace Prize

The 2024 Nobel Peace Prize has been awarded to the Japanese organization Nihon Hidankyo for its work toward a world free of nuclear weapons.

About Nobel Peace Prize

- Awarded to those promoting "fraternity between nations," reducing standing armies.
- In 2017, the prize was given to the International Campaign to Abolish Nuclear Weapons (ICAN) for its efforts in denuclearization.

8.4.3. Cabinet Approves Development of NMHV at Lothal, Gujarat

The National Maritime Heritage Complex (NMHC), under the Sagarmala Programme, is being developed at Lothal to create the world's largest maritime heritage complex, featuring a 2400 BC dry dock, a Lighthouse Museum, and a maritime eco-resort.

About Lothal:

- **Location:** Between Bhogavo and Sabarmati rivers near Gulf of Khambat.
- **Oldest man-made dry-dock (2400 BC ago)**

India's Maritime Heritage

- **IVC (3000-2000 BC):** Trade with Mesopotamia
- **Vedic Age:** First maritime references in Rig Veda
- **Nandas/Mauryas:** World's first recorded navy
- **Satavahanas:** First ship-inscribed coins
- **Guptas:** Expanded European-African trade
- **Marathas:** Strong navy under Shivaji
- **Southern Dynasties:** Notable maritime presence.

8.4.4. Geographical Indications Tag to 8 Assam Products

The Geographical Indications (GI) Registry in Chennai has granted the GI tag to eight products from Assam:

- **Traditionally fermented rice-based alcoholic beverage (3):**
 - ➔ Bodo Jou Gwan
 - ➔ Bodo Jou Gishi
 - ➔ Maibra Jou Bidwi

Traditional Dishes (4):

- **Bodo Napham:** Fermented fish dish.
- **Bodo Ondla:** Rice powder curry.
- **Bodo Gwkha:** Dish for Bwisagu festival, also known as 'Gwka Gwkhi'.

- ➔ **Bodo Narzi:** Semi-fermented food with jute leaves.
- ➔ **Bodo Aronai:** Traditional shawl or scarf.

8.4.5. Commonwealth Games (CWG) 2026

The 2026 Commonwealth Games (CWG), set to be held in Glasgow, will feature only 10 sports.

About CWG 2026

- ➔ Six of the 12 disciplines have been dropped for the 2026 edition, including badminton, cricket, hockey, squash, table tennis, and wrestling.

About CWG

- ➔ The first CWG was held in 1930 in **Hamilton, Canada**.
- ➔ The Games are held every four years. India hosted the Games in 2010 in Delhi

8.4.6. Paryatan Mitra and Paryatan Didi Initiative

The Ministry of Tourism launched **Paryatan Mitra** and **Paryatan Didi** as part of a national responsible tourism initiative.

About Initiative

- ➔ Aims to enhance the tourist experience by connecting them with 'tourist-friendly' locals who act as ambassadors.
- ➔ It provides tourism-related training and awareness to individuals.
- ➔ Special focus is given to training women and youth to develop new tourism experiences.

8.4.7. Poumai Naga Tribe

The Poumai Naga tribe of Purul village, Senapati District, Manipur, has prohibited hunting, trapping, and killing wild animals and birds within their territory.

About the Poumai Naga Tribe

- ➔ Among the oldest and largest Naga tribes in Manipur.
- ➔ Reside in both Manipur and Nagaland.
- ➔ Renowned for Pouli (pottery) and Poutai (salt) production.
- ➔ Language: Poula.

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ETHICS



9.1. Mahatma Gandhi and Compassion

Recently, former United Nations Secretary-General, Ban-Ki-Moon, highlighted the significance of **Mahatma Gandhi's compassion**.

What is Compassion?

A feeling arising from others' suffering, coupled with a desire to alleviate that suffering. Different from sympathy and empathy by including an active desire to help.

- ➔ Sympathy: **pity or sorrow for someone else's suffering**
- ➔ Empathy: **feel what another person is feeling**
- ➔ Compassion: **desire to alleviate suffering.**

Key Components of Compassion

- ➔ **Cognitive/Empathic:** Being aware of other's suffering
- ➔ **Affective:** Sympathetic concern.
 - ➔ Emotionally moved by the suffering.
- ➔ **Intention:** Wish to see relief in the suffering.
- ➔ **Motivational:** Readiness to help relieve the suffering.

Key values of Mahatma Gandhi that foster Compassion

Core Principles

- ➔ **Satyagraha:** Securing rights without inflicting injury (E.g.- Indigo Revolt 1917)
- ➔ **Equality:** Fighting discrimination against untouchables and empowering women
- ➔ **Respect for Humanity:** Compassion even towards oppressors
- ➔ **Kindness:** He was a committed vegetarian and discouraged the slaughter of animals on moral grounds.
- ➔ **Sarvodaya (Welfare for all)**
- ➔ **Non-Violence:** A tool to attain truth
- ➔ **Concern for Nature:** "The Earth has enough resources for our needs but not for our greed."
- ➔ **Altruism or Self-Sacrifice:** Gandhi's Talisman
- ➔ **Sarvodaya:** Welfare for all
- ➔ **Concept of trusteeship**

Seven Deadly Social Sins

1. Wealth Without Work
2. Pleasure Without Conscience
3. Knowledge Without Character
4. Commerce Without Morality
5. Science Without Humanity
6. Religion Without Sacrifice
7. Politics Without Principle

Contemporary Relevance

- Addressing climate crisis: **Living in harmony with nature**
- Resolving conflicts: **approach of “hate the sin, not the sinner”**
- Dealing with economic challenges: **idea of trusteeship**
- Promoting social change: **like the Swachch Bharat Mission**
- Bridging societal fragmentation: **vision of inclusive spirituality**

Way Forward on Imbibing Compassion

- Fostering compassion from childhood
- Developing social responsibility
- Practicing self-compassion
- Accepting mistakes and showing forgiveness

9.2. Personality in Focus: Ratan Naval Tata (1937–2024)

Recently, former chairman of Tata Group, Ratan Naval Tata passed away marking the end of an era.

Early Life

- **Born:** December 28, 1937, Mumbai
- **Education:** Architecture and engineering from Cornell University, Advanced Management from Harvard
- **Career:** Joined Tata Industries in 1962

Key values

- **Profound Simplicity:** Low-profile, focused on work
- **Resilience and Perseverance:** Despite hurdles, launched the Tata Nano project in 2008
- **Visionary:** Expanded Tata Group from \$4 billion to \$100 billion
- **Humility:** Worked on shop floor to understand grassroots operations.
- **Empathy:** Tata Trust expanded its philanthropic work.
- **Spirit of service:** Restoration of Taj Hotel and provided personal support to affected employees.

Key lessons from the life of Ratan Tata

- **Compassionate Capitalism:** 60–65% of Tata Sons’s dividends directed to charitable causes.
- **Corporate Social Responsibility**
- **Contribution to Social Well-Being:** India’s first cancer hospital.
- **Business Ethics:** Strong ethical principles **over short-term profits.**
- **Promoting Entrepreneurship:** Invested in **startups**, such as Cashkaro, Snapdeal etc
- **Promoted Sustainability:** PETA India awarded Tata Motors **the Cow-Friendly Future award.**
- **Global Footprint:** E.g. Acquisitions like Jaguar Land rover and Corus.

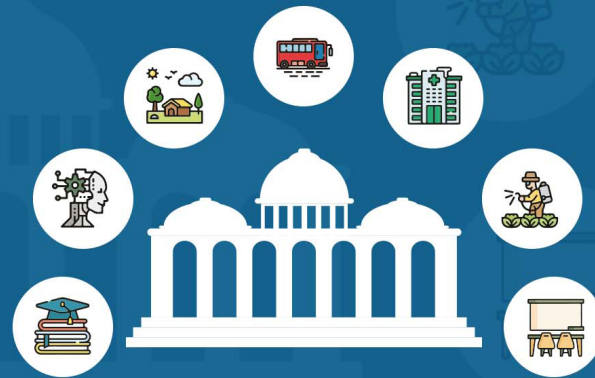
Awards

- Padma Vibhushan (2008)
- Padma Bhushan (2000)

Conclusion

Ratan Tata embodied ethical leadership, demonstrating compassion, resilience, and commitment to societal well-being beyond business success.

GOVERNMENT SCHEMES



10.1 PM Rashtriya Krishi Vikas Yojana (PM-RKVY)

- ➔ **Purpose:** Promote **sustainable agriculture**.
- ➔ **Type:** Centrally sponsored scheme.
- ➔ **Ministry:** Ministry of Agriculture & Farmers Welfare.
- ➔ **Objectives:** To incentivize state level public investment in agriculture.
 - ➔ Strengthen farmers through infrastructure development for eg. Value chain addition.
 - ➔ Empower youth through agri-entrepreneurship.
- ➔ **Funding Model:** 90:10 per cent for Northeastern and hilly states; 60:40 per cent for other states; 100 per cent for UTs
- ➔ **Key Focus Areas:** Small and marginal farmers, Scheduled Castes/Tribes, women and other weaker segments of society.

10.1.1 Krishonnati Yojana (KY)

- ➔ **Purpose:** to address **food security & agricultural self-sufficiency**.
- ➔ **Type:** Centrally sponsored scheme.
- ➔ **Ministry:** Ministry of Agriculture & Farmers Welfare.
- ➔ **Objectives:** Holistic and scientific development of agriculture and allied sectors to increase farmer income.
- ➔ **Key Focus Areas:** Integrated Development of horticulture, Technological Intervention and Comprehensive agriculture Transformation.



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Topics	Key facts/Data
Jan Yojana Abhiyan	<ul style="list-style-type: none"> ➔ Constitutional Provisions: Article 40, Article 243G, 73rd and 74th Constitutional Amendment Acts.
Free Legal Aid in India	<ul style="list-style-type: none"> ➔ Constitutional Provisions: Article 21, Article 39-A ➔ Statutory Provisions: Legal Services Authorities Act, 1987, Section 341 of the Bhartiya Nagarik Suraksha Sanhita, 2023 ➔ Key Judgements (upholding the principle of free legal aid): M. H. Hoskot v. State of Maharashtra, (1978), Hussainara Khatoon v. State of Bihar (1979), Khatri & Others v. State of Bihar (1981), etc. ➔ Government Steps: DISHA scheme, Tele-Law, Nyaya Bandhu programme, Nyaya Mitra programme, Lok Adalat, Haq Humara bhi toh hai@75 campaign in 2022.
Right to Information	<ul style="list-style-type: none"> ➔ Key Judgement: Raj Narayan v/s Uttar Pradesh Government (RTI as Fundamental Right under Article 19). ➔ Jurisdiction: Lower courts are barred from entertaining suits or applications under the RTI Act. ➔ Important Amendments: Right to Information (Amendment) Act, 2019 and Digital Personal Data Protection (DPDP) Act, 2023.
India-China Agreement On Line Of Actual Control (LAC)	<ul style="list-style-type: none"> ➔ India and China share 3,488 Km long boundary. ➔ Key Agreement: Agreement on the Maintenance of Peace and Tranquillity (1993), Agreement on Confidence Building Measures (CBM) in the Military Field along (1996), etc. ➔ Lines of Demarcation: Johnson Line, McDonald Line (western sector) and McMahon Line (eastern sector). ➔ India faces disproportionately higher trade deficit (~ USD 85 billion in 2022-23) with China.
India-Maldives Relationship	<ul style="list-style-type: none"> ➔ 50% of India's external trade and 80% of India's energy imports transit through vicinity of Maldives.
India-Canada Relationship	<ul style="list-style-type: none"> ➔ Diplomatic immunity is primarily derived from Vienna Convention, 1961. ➔ Bilateral trade touching \$9.36 billion (in goods) and \$9.99 billion (in services) in 2023. ➔ Canada hosts one of the largest Indian Diaspora abroad (~1.8 million).
ASEAN	<ul style="list-style-type: none"> ➔ Bilateral trade between India and ASEAN stood at \$ 122.67 Billion during 2023-24. ASEAN is India's 4th largest trading partner and accounts for 11% of India's global trade. ➔ Connectivity projects: Kaladan Multi-Modal Transport Project, India-Myanmar- Thailand Trilateral Highway.
BRICS	<ul style="list-style-type: none"> ➔ It represents 45% of the world's population and 37.3% of world GDP. ➔ BRICS countries produce about 44% of the world's crude oil. ➔ BRICS countries collectively account for 18% of global trade and just 2.2% of intra BRICS trade.
B Ready Index	<ul style="list-style-type: none"> ➔ The assessment currently includes 50 economies (excluding India) and plans to expand to 180 by 2026.

Scaling of India's Small Companies	<ul style="list-style-type: none"> ➔ This phenomenon has been growing over time and accounts for over 25.16% of total employment in all plants and 35.48% of employment in large plants. ➔ Initiatives to promote larger farms: PLI Scheme, RAMP scheme, National Industrial Corridor Development Programme, Codification of labour laws.
PM GatiShakti National Master Plan	<ul style="list-style-type: none"> ➔ Targets: <ul style="list-style-type: none"> ➔ The national highway network aims to reach 200,000 km of national highways. ➔ Plan include 200 new airports, heliports, and water aerodromes to support aviation. ➔ Rail cargo capacity to grow to 1,600 tons within FY25. ➔ Power grid to extend reach via 454,200 circuit km of lines. ➔ Increase renewable capacity to 225 GW by FY25 and complete around 17,000 km of gas pipelines.
10 Years of Make in India	<ul style="list-style-type: none"> ➔ Aims: 12-14% industrial growth rate, 25% manufacturing GDP share by 2025. ➔ Manufacturing Performance: Current GDP share: 17.7% (2023) <ul style="list-style-type: none"> ➔ Growth rate: ~6% since 2014. ➔ Jobs: Declined from 51 million (2017) to 35 million (2023). ➔ FDI: Averaged 1.8% of GDP (2015-2023). ➔ Achievement: India now 2nd largest mobile manufacturer globally
Poverty in India	<ul style="list-style-type: none"> ➔ Current Status Poverty Headcount Ratio decreased to 11.28% (2022-23) 24.82 crore Indians escaped multidimensional poverty in last 9 years Significant fall in extreme poverty from 431M (1990) to 129M (2024)
Global Innovation Index 2024	<ul style="list-style-type: none"> ➔ India ranked 39th among 133 nations ➔ Bengaluru, Delhi, Chennai and Mumbai among top 100 S&T clusters
National Mission on Edible Oils	<ul style="list-style-type: none"> ➔ Targets for 2030-31 <ul style="list-style-type: none"> ➔ Increase primary oilseed production to 69.7 million tonnes. ➔ Increase domestic edible oil production to 25.45 million tonnes. ➔ Expand oilseed cultivation by additional 40 lakh hectares.
AI and Defence	<ul style="list-style-type: none"> ➔ Evaluating Trustworthy Artificial Intelligence (ETAI) Framework and Guidelines launched by CDS. ➔ Focuses on five principles: Reliability, Safety & Security, Transparency, Fairness & Privacy.
Jal he Amrit	<ul style="list-style-type: none"> ➔ Launch: Under AMRUT 2.0 ➔ Aim: To create Water-secure cities ➔ Strategy: rating-based incentives via clean water credits
Hyperlocal Weather Forecasting	<ul style="list-style-type: none"> ➔ CoS-it-FloWS (Community-Sourced Impact-based Flood Forecast and Early Warning System) launched in Kerala's Periyar and Chalakudi river basins. ➔ Project: Run by Equinoct, recognised by UNICEF.
Mental Health Among Adolescents	<ul style="list-style-type: none"> ➔ 'Mental Health of Children and Young People - Service Guidance' report released by WHO and UNICEF ➔ Key Findings: <ul style="list-style-type: none"> ➔ Suicide is the fourth leading cause of death for 15- 19-year-olds ➔ One-third of mental health conditions emerge before 14, and half before 18
Child Marriages in India	<ul style="list-style-type: none"> ➔ Prevalence <ul style="list-style-type: none"> ➔ Women: 23.3% ➔ Men: 17.7% ➔ NCRB data: Reported an increase in cases under Prevention of Child Marriage Act, 2006.

Global Hunger Index	<ul style="list-style-type: none"> ➔ Released by Concern Worldwide and Welt Hunger Hilfe ➔ Initiatives taken for Tackling Hunger in India <ul style="list-style-type: none"> ➔ PMGKAY: Free food grains for 80 crore poor ➔ POSHAN Abhiyan: Improving nutrition for children and women ➔ National Food Security Act ➔ Eat right movement ➔ Integrated Child Development Scheme
National Health Accounts Estimates	<ul style="list-style-type: none"> ➔ Key findings of NHA Estimates for India ➔ Total Health Expenditure (THE) <ul style="list-style-type: none"> ➔ Increased to 3.83% of GDP from 3.31% ➔ Per capita expenditure rose to Rs. 6,602 from Rs. 4,297 ➔ Government Health Expenditure (GHE) <ul style="list-style-type: none"> ➔ Increased to 48% of THE from 40.8% ➔ Other Key Indicators <ul style="list-style-type: none"> ➔ Current Health Expenditures decreased to 87.3% ➔ Out-of-pocket expenditures reduced to 48.8%
Nobel Prize in Chemistry 2024	<ul style="list-style-type: none"> ➔ Computational Protein Design (CPD) aims to create new proteins (synthetic proteins) with novel functions or properties not found in nature.
Nobel Prize in Medicine 2024	<ul style="list-style-type: none"> ➔ MicroRNA (miRNA) is a small non-coding RNA that helps cells in regulating gene expression.
Nobel Prize in Physics 2024	<ul style="list-style-type: none"> ➔ Machine learning is component of AI that focuses on using data and algorithms to enable AI to imitate the way that humans learn, gradually improving its accuracy.
Bharatgen Programme	<ul style="list-style-type: none"> ➔ BharatGen Programme will be an open source platform.
Space Docking Experiment (Spadex)	<ul style="list-style-type: none"> ➔ Space docking involves precise connection of two spacecraft to operate as a single unit.
Unified Genomic Chip	<ul style="list-style-type: none"> ➔ Single Nucleotide Polymorphism (SNP) refers to a variation in a DNA sequence where a single nucleotide is different from the reference sequence
Anti-Microbial Resistance (AMR)	<ul style="list-style-type: none"> ➔ Antimicrobial Resistance (AMR) is a condition when microorganisms change in ways to render medicines ineffective.
MACE Observatory	<ul style="list-style-type: none"> ➔ Major Atmospheric Cherenkov Experiment (MACE) Observatory is the largest imaging Cherenkov telescope in Asia and 2nd largest in the world.
Classical Language	<ul style="list-style-type: none"> ➔ Criteria for Declaring Classical Language <ul style="list-style-type: none"> ➔ Classical forms with history of 1500–2000 years ➔ The 'original literary tradition' norm was dropped from the revised 2005 criteria
Kartarpur Sahib Corridor	<ul style="list-style-type: none"> ➔ Location: On west bank of River Ravi. ➔ Agreement Signed in 2019 for 5years, now extended.

ACTIVITIES



12.1. MCQS

1. With reference to Gram Nyayalayas, consider the following statements:

1. They are established at intermediate Panchayat level.
2. They are bound by the Indian Evidence Act, 1872.
3. They have both civil and criminal jurisdiction.

Which of the above statements is/are NOT correct?

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 2 only
- (d) 3 only

2. Regarding Section 6A of Citizenship Act, which of the following statements are correct?

1. It was added through Citizenship Amendment Act, 1985 following the Assam Accord.
2. It confers citizenship to migrants from East Pakistan to Assam between 1966 and March 1971.
3. Recently, the Supreme Court of India declared it unconstitutional under Article 14.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

3. Consider the following list:

1. Women and children
2. Members of Scheduled Castes
3. Members of Other Backward Classes
4. Industrial workmen
5. Persons with Disabilities

How many of the above are eligible for free legal aid under the Legal Services Authorities Act, 1987?

- (a) 1 and 2 only
- (b) 1, 2, 4 and 5 only
- (c) 2, 4 and 5 only
- (d) 1, 2, 3, 4 and 5

4. With reference to diplomatic immunity, consider the following statements:

1. It is derived from the Vienna Convention, 1961.
2. It provides protection to foreign government officials from local courts' jurisdiction.
3. It applies only to official activities of diplomatic officials.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 only
- (d) 1, 2 and 3

5. Which of the following statements about the types of diplomacy between nations is/are correct?

1. Track 1.5 diplomacy involves both government representatives and non-governmental experts.
2. Track 2 diplomacy involves direct governmental participation.
3. Both Track 1.5 and Track 2 diplomacy focus on formal diplomatic channels.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

6. Which of the following is/are correct regarding the B-Ready Index of World Bank?

1. It focuses exclusively on regulatory burden on firms like the Ease of Doing Business rankings
2. It combines expert insights and firm surveys for data collection, unlike EODB which relied mainly on expert consultations
3. It examines both de jure and de facto regulations consistently

Select the correct answer using the code given below:

- (a) 2 only
- (b) 2 and 3 only

- (c) 1 and 2 only
(d) 1, 2 and 3
- 7. Which of the following statements is/are correct about National Mission on Edible Oils - Oilseeds (NMEO-Oilseeds)?**
- It aims to meet 100% of India's domestic edible oil requirements by 2030-31
 - The mission plans to expand oilseed cultivation by targeting rice and potato fallow lands
 - It introduces SATHI portal for a 5-year rolling seed plan and advance tie-ups with seed-producing agencies
- Select the correct answer using the code given below:
- (a) 1 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2 and 3
- 8. The GlobE Network, recently in news, is primarily concerned with:**
- (a) Global climate change mitigation
(b) Anti-corruption law enforcement
(c) International cybersecurity
(d) Counter-terrorism operations
- 9. Dragon Drone, recently seen in Russia-Ukraine war, is characterized by its use of:**
- (a) Nuclear payload delivery
(b) Thermite mixture
(c) Electromagnetic pulse
(d) Biological agents
- 10. What is "Terminal High Altitude Area Defense (THAAD)", sometimes seen in the news?**
- (a) An Israeli radar system
(b) India's indigenous anti-missile programme
(c) An American anti-missile system
(d) A defence collaboration between Japan and South Korea
- 11. What does the term greenwashing refer to as per the 2024 guidelines issued by the CCPA?**
- (a) Any initiative to promote green and eco-friendly practices
(b) Any misleading practice involving false or exaggerated environmental claims
(c) The process of recycling industrial waste to reduce pollution
(d) The use of green technology to enhance product efficiency

12. Which of the following statements about biodiversity credits is/are correct?

- Biodiversity credits are used solely to compensate for the negative impacts of companies on biodiversity.
- They aim to achieve a net-positive impact on biodiversity.
- Companies purchase biodiversity credits to fulfill biodiversity-related or nature-based commitments.

Which one of the following is correct in respect of the above statements?

- (a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, and 3

13. Match the following global initiatives with their objectives:

Initiative	Objective
1. Basel Convention	A. Protect human health and environment from persistent organic pollutants.
2. Stockholm Convention	B. Regulate transboundary movement and disposal of hazardous wastes.
3. Strategic Approach to International Chemicals Management (SAICM)	C. Promote chemical safety through a multi-stakeholder approach.

Which one of the following is correct in respect of the above statements?

- (a) 1-B, 2-A, 3-C
(b) 1-C, 2-B, 3-A
(c) 1-A, 2-B, 3-C
(d) 1-B, 2-C, 3-A

14. BharatGen Programme was recently launched. It is associated with

- (a) Chandrayaan-4
(b) Artificial Intelligence
(c) Bio-fuels
(d) Nanotechnology

15. Nuclear Technologies can be used for which of the following?

- Artificial insemination
- Measure soil moisture
- Controlling pests
- Measure nitrogen fixation

Choose the correct answer from the given codes

- (a) 1 and 2 only

- (b) 3 only
 (c) 2, 3, and 4 only
 (d) 1, 2, 3 and 4

16. Consider the following statements with reference to Neutrinos:

1. They are produced in the universe from cosmic sources like the Sun, supernovae, etc.
2. Neutrinos interact very weakly with matter because of which it is difficult to detect them.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

17. Consider the following statements about Classical Language status in India:

1. It leads to increased financial assistance for research and preservation
2. The status helps in documentation and digitization of manuscripts
3. It generates employment in archiving and translation sectors

National Education Policy 2020 focuses exclusively on Sanskrit promotion.

Which of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) Only three
 (d) All four

18. Consider the following statements regarding Pali language and Buddhist literature:

1. Pali was traditionally identified with Magadhi Prakrit and was used for Buddhist philosophical works like Dhammapada.
2. The Pali Canon consists of only two pitakas - Vinaya Pitaka and Sutta Pitaka.
3. Vinaya Pitaka deals exclusively with rules and discipline of Buddhist sangha monastic order.

Which of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

19. Regarding PM-RKVY scheme, which statements are correct?

1. It operates as a cafeteria scheme from 2022-23
2. It provides 100% funding for Union Territories
3. The scheme includes Paramparagat Krishi Vikas Yojana and Agro Forestry

Which of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

20. Which statements correctly describe Krishonnati Yojana (KY)?

1. It aims to increase farmers' income through enhanced production
2. It has been implemented since 2016-17 as an umbrella scheme
3. It operates independently of other agricultural schemes

Which of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

12.2. True/False Statements

1. The Computer Emergency Response Team (CERT-In) is exempt from disclosure under the Second Schedule of Right to Information Act, 2005. (T/F)
2. Article 39-A was inserted by the 42nd Constitutional Amendment. (T/F)
3. India approved new Model BIT Text in 2015 replacing the 1993 model. (T/F)
4. The Philadelphi Corridor is a ribbon of land that lies along Israel's border with Lebanon. (T/F)
5. Mumbai Interbank Outright Rate (MIBOR) was first introduced by the Reserve Bank of India in 1998 as an interest rate benchmark for banks borrowing unsecured funds. (T/F)
6. The Global Innovation Index (GII) 2024 ranked India 39th among 133 nations, reflecting an improvement from its previous ranking. (T/F)
7. The per-transaction limit for Unified Payment Interface (UPI)123Pay has been increased from ₹5,000 to ₹10,000. (T/F)
8. Non-kinetic warfare strategies are less deadly and impactful than traditional kinetic methods. (T/F)
9. Akashteer Systems are specifically designed to counter aerial threats like missiles and rocket attacks. (T/F)
10. Exercise Malabar 2024 is a maritime exercise involving India, Japan, Australia, and the United States. (T/F)

11. The goal of the global forest initiative is to eliminate deforestation and restore 30% of degraded forest areas by 2030. (T/F)
12. National Tiger Conservation Authority (NTCA) is a statutory body established under the Wildlife (Protection) Act of 1972. (T/F)
13. E- migrate portal is launched by Ministry of Tourism. (T/F)
14. PM YASASVI aims for quality education to socially and economically disadvantaged students. (T/F)
15. Fortification of rice can help improve India's nutritional outcomes. (T/F)
16. Protein is composed of 20 naturally occurring amino acids. (T/F)
17. Space Docking is only used for refuelling. (T/F)
18. Artificial Neural Networks (ANNs) is a Machine Learning program or model that makes decisions in a manner similar to the human brain. (T/F)
19. The noble peace prize was awarded to Japanese organization for its work towards world free of nuclear weapons. (T/F)
20. Marathas were the first rulers to issue coins with Ship inscriptions. (T/F)

12.3. Mains Practice Questions

1. Discuss the objectives and significance of the Jan Yojana Abhiyan in empowering local self-governments in India. (150 words, 10 marks)
2. Briefly mentioning the constitutional and statutory provisions for providing free legal aid in India, discuss how these provisions contribute to ensuring equal justice for all? (150 words, 10 marks)
3. Critically assess the impact of the Right to Information (RTI) Act, 2005 on transparency and accountability in governance in India. (150 words, 10 marks)
4. Discuss the significance of ASEAN for India's Act East policy. Briefly mention three initiatives taken by India to strengthen ties with ASEAN countries. (150 words, 10 marks)
5. Recently, India and China agreed for disengagement in some sectors on the Line of Actual Control (LAC). Examine the geopolitical implications of the India-China border dispute for India in the context of its broader Indo-Pacific strategy. (150 words, 10 marks)
6. Analyze the emerging threats posed by Non-Kinetic Warfare for India. What measures can be taken to enhance India's preparedness against such threats? (150 words, 10 marks)
7. What is Space Based Surveillance (SBS)? What are significance and concerns of SBS? (150 words, 10 Marks)
8. What do you understand by Antimicrobial Resistance (AMR)? Discuss factors which are contributing to it. How it can be tackled? (150 words, 10 Marks)
9. While highlighting the key features of Kartarpur Sahib Corridor agreement, discuss its significance. (150 words, 10 marks)
10. Classical languages help strengthen India's literary tradition. Elaborate. (150 words, 10 marks)
11. In the context of shifting global power dynamics, critically analyze the strategic significance of BRICS for India. (250 words, 15 marks)
12. Make in India's focus on manufacturing has not significantly improved employment outcomes. Examine the success of Make in India initiative from its intended objectives and suggest measures to enhance its effectiveness. (250 words, 15 marks)
13. "Despite significant reduction in poverty levels, India continues to face challenges in accurate poverty estimation and targeted intervention. Examine the evolution of poverty measurement methodologies in India and suggest measures for more effective poverty alleviation. (250 words, 15 marks).
14. Discuss the role of Artificial Intelligence (AI) in modern defence systems, highlighting its applications in offensive and supporting functions. What are the ethical and legal challenges associated with the use of AI in defence? (250 words, 15 marks)
15. Discuss the objectives and potential benefits of the 'Jal hi Amrit' initiative under AMRUT 2.0. How does water recycling contribute to sustainable water management and environmental conservation in urban areas? (250 words, 15 marks)
16. Examine the challenges in achieving the global forest goals of eliminating deforestation and restoring degraded landscapes by 2030. Suggest effective strategies to address these challenges. (250 words, 15 marks)
17. The 'Greening of Antarctica' is an unintended consequence of climate change. Critically evaluate the challenges it poses to the fragile Antarctic ecosystem and global climate systems. (250 words, 15 marks)
18. Mental health has been emerging as a challenge specially for young and adolescents. Elaborate and suggest measures to improve the same. (250 words, 15 marks)
19. While highlighting the factors behind global and national hunger issues, discuss the initiatives taken by India to curb it. (250 words, 15 marks)
20. Nobel Prize in Chemistry 2024 has been awarded for the discovery of microRNA and its role in Gene Regulation. Discuss the role of MicroRNA in Gene regulation. And, potential applications of discovery. (250 words, 15 marks)

12.4. Ethics Case Studies

You have been recently selected to the post of Block Development Officer through a merit based competitive exam. For the purpose of your studies, you had moved to a metropolitan city away from your native village. Post the announcement of result, you decide to visit your village after almost 5 years. On reaching there, you met your paternal aunt, widowed a year back. You observed the discriminatory treatment subjected to her as not being involved in the family celebrations, prohibition on entering into kitchen and main areas of the house, etc. Disturbed by this, you decided to confront your parents who informed you that villagers there look at widowed women as bad luck and maintain their distance. Presence of such beliefs in the 21st century in your village and own household has disturbed you.

Based on the above case study, answer the following questions:

1. Defining Compassion, suggest how imbibing the virtues of Compassion towards others would help in dealing with discriminatory social problems.
2. Identify the key stakeholder involved and discuss their responsibilities towards society.
3. What course of action would you follow to ensure that such beliefs are eliminated from your village?

ALL INDIA MAINS TEST SERIES

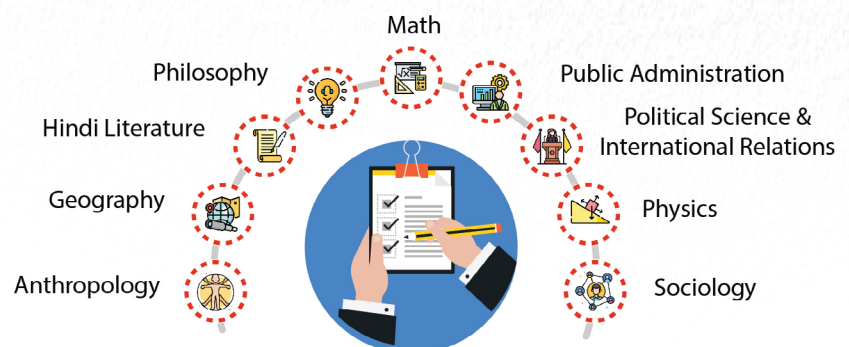
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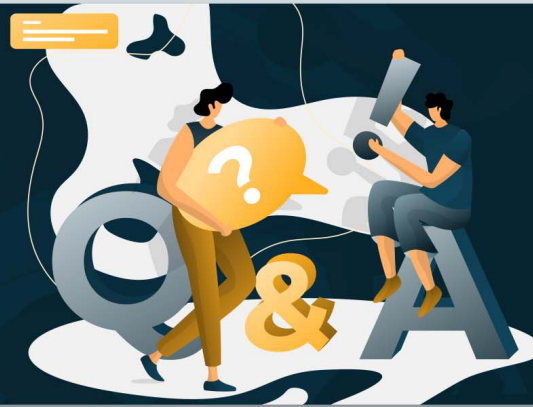


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ANSWERS AND EXPLANATION



13.1. MCQs Answer and Explanation

1. C

Explanation:

- ➔ Statement 1 is correct: Gram Nyayalayas are established at intermediate Panchayat level.
- ➔ Statement 2 is incorrect: Gram Nyayalayas are not bound by the Indian Evidence Act, 1872 but follow Principles of Natural Justice.
- ➔ Statement 3 is correct: Gram Nyayalayas have both civil and criminal jurisdiction.

2. A

Explanation:

- ➔ **Statement 1 is correct:** Section 6A was added through Citizenship Amendment Act, 1985 following the Assam Accord.
- ➔ **Statement 2 is correct:** It confers citizenship to migrants from East Pakistan to Assam between 1966 and March 1971.
- ➔ Statement 3 is incorrect: Supreme Court upheld its validity under Article 14 citing Assam's unique migrant situation.

3. B

Explanation:

Eligibility for free legal aid under the Legal Services Authorities Act, 1987:

- ➔ Women and children
- ➔ Members of Scheduled Castes/Scheduled Tribes
- ➔ Industrial workmen
- ➔ Victims of mass disaster, violence, flood, drought, earthquake, industrial disaster
- ➔ Persons with Disabilities
- ➔ Persons in custody in protective home, juvenile home, or in a psychiatric hospital
- ➔ Persons whose annual income does not exceed Rs. 1 lakh (Under the Legal Services Authorities Act, 1987, higher amount may be prescribed by the State Govt)

- ◇ In the Supreme Court Legal Services Committee the limit is Rs. 5,00,000/

- ➔ Victims of Trafficking in Human beings or beggar

4. A

Explanation:

- ➔ **Statements 1 and 2 are correct:** Diplomatic immunity is derived from Vienna Convention, 1961 and protects foreign officials from local jurisdiction.
- ➔ **Statement 3 is incorrect:** It applies to both official and personal activities of diplomatic officials.

5. A

Explanation:

- ➔ **Statement 1 is correct:** Track 1.5 involves both government and non-governmental experts.
- ➔ **Statement 2 is incorrect:** Track 2 is purely unofficial without direct governmental involvement.
- ➔ **Statement 3 is incorrect:** These tracks represent less formal diplomatic channels.

6. B

Explanation

- ➔ **Statement 1** is incorrect as B-Ready examines both regulatory burden and quality of regulation, unlike EODB which only examined burden.
- ➔ **Statement 2 and 3 are correct** as B-Ready combines expert insights with firm surveys and examines both legal (de jure) and practical (de facto) regulations consistently.

7. B

Explanation

- ➔ Statement 1 is incorrect as NMEO-Oilseeds aims to meet around 72% of projected domestic requirement by 2030-31.
- ➔ Statements 2 and 3 are correct as the mission plans to expand cultivation through fallow lands and introduces SATHI portal for seed planning and tie-ups.

8. B

Explanation

- ➔ GlobE Network is an initiative launched under G20 framework in 2021 at UN General Assembly Special Session **against Corruption**. It enables operational law enforcement authorities with **anti-corruption mandate to counter transnational corruption cases**.

9. B

Explanation

- ➔ Dragon Drone is an **unmanned aerial vehicle that releases thermite**, a mixture of aluminum and iron oxide. When ignited, thermite produces a self-sustaining reaction that's almost impossible to extinguish and can cause severe burns and bone damage.

10. C

Explanation:

- ➔ **USA** announced that it will send its **Terminal High-Altitude Area Defence (THAAD) Battery System** to aid Israel.
- ➔ It is an **advanced defence system** against **short, medium, and intermediate-range ballistic missile** threats developed by **Lockheed Martin Corporation**. It is the **only US system** designed to **intercept targets outside and inside the atmosphere** employing "hit-to-kill" technology.

11. B

Explanation

- ➔ Central Consumer Protection Authority (CCPA) has issued guidelines for '**Prevention and Regulation of Greenwashing and Misleading Environmental Claims, 2024**'.
- ➔ **Defines greenwashing clearly:** Greenwashing means **any deceptive or misleading practice**, which includes **concealing, omitting, or hiding relevant information**, by exaggerating, making vague, false, or **unsubstantiated environmental claims**.

12. B.

Explanation**Biodiversity Credits**

- ➔ **Definition:** An economic instrument that allows private companies to finance activities, such as forest conservation or restoration.
- ➔ **Purpose:** To have a **net-positive impact on nature and biodiversity**.
 - ◊ Unlike biodiversity offset, biodiversity credits are **not limited to compensating** for companies' negative and unavoidable impacts on nature.
- ➔ **Functioning:**
 - ◊ Stakeholders that have a goal to conserve or restore land generate a supply of credits, or "certificates".

- ◊ Private companies then purchase these credits **to meet their biodiversity- or nature-based commitments**.

13. A.

Explanation

- ➔ **Strategic Approach to International Chemicals Management (SAICM)** : Global policy framework to minimize health and environmental **impacts of chemicals** throughout their lifecycle.
- ➔ **Basel Convention:** To regulate transboundary movement and disposal of **hazardous wastes**.
- ➔ **Stockholm Convention:** To protect human health and environment from effects of **persistent organic pollutants**.

14. B

Explanation

- ➔ **About BharatGen Programme**
 - ◊ **A Multimodal Large Language Model (LLM) project** focused on creating **Generative AI systems** that can generate high-quality text and multimodal content (audio and imagery) in various Indian languages.
 - ◊ It will be an open source platform.
 - ◊ Aim and Purpose: Revolutionize public service delivery through AI, etc
 - ◊ Bharat Data Sagar: aims at establishing a vast repository of India-centric data

15. D

Explanation

- ➔ **Applications of Nuclear Technologies in agriculture**
 - ◊ **Irradiation technique:** Extends shelf life of foods
 - ◊ **Fallout radionuclide (FRN) technique:** Measure erosion patterns
 - ◊ **Cosmic-ray neutron sensor (CRNS) technology:** Measures soil moisture
 - ◊ **Radioimmunoassay (RIA) technology:** Enables precise timing for artificial insemination.
 - ◊ **Sterile insect technique (SIT):** Controls pests
 - ◊ **Other technologies:** Nitrogen-15 to measure nitrogen fixation in roots; etc.

16. C

Explanation:

- ➔ Neutrinos are produced in the universe, particularly from cosmic sources like the Sun, supernovae, etc.
- ➔ These interact very weakly with matter, making them difficult to detect, but they are everywhere, permeating the universe.

17. C

Explanation

- ➔ Statement 1 is correct as classical language status does lead to financial support for research and preservation.
- ➔ Statement 2 is correct because the status aids in the documentation and digitization of manuscripts.
- ➔ Statement 3 is correct as it creates jobs in archiving and translation sectors.
- ➔ Statement 4 is incorrect as NEP 2020 promotes all Indian languages, not just Sanskrit.

18. B

Explanation

- ➔ Statement 1 is correct because Pali is indeed identified with Magadhi Prakrit and is used in Buddhist texts like Dhammapada.
- ➔ Statement 2 is incorrect as the Pali Canon consists of three pitakas: Vinaya, Sutta, and Abhidhamma Pitaka.
- ➔ Statement 3 is correct as Vinaya Pitaka focuses on the rules and discipline of the Buddhist monastic community.

19. C

Explanation

- ➔ Statement 1 is correct as PM-RKVY was restructured to operate as a cafeteria scheme from 2022-23, allowing states to choose components based on their priorities.
- ➔ Statement 2 is correct as the scheme provides 100% funding for Union Territories, ensuring complete financial support for agricultural development in these regions.
- ➔ Statement 3 is correct as the scheme includes components like Paramparagat Krishi Vikas Yojana and Agro Forestry, focusing on sustainable agricultural practices.

20. B

Explanation

- ➔ Statement 1 is correct as Krishonnati Yojana aims to increase farmers' income by enhancing agricultural productivity and sustainability.
- ➔ Statement 2 is correct as it has been implemented as an umbrella scheme since 2016-17, consolidating various agricultural initiatives under one framework.

Statement 3 is incorrect because Krishonnati Yojana does not operate independently but rather integrates multiple schemes and missions to achieve its objectives.

13.2. True/False Answers

Answers

1. T 2. T 3. T 4. F 5. F 6. T 7. T 8. F 9. T 10. T
 11. T 12. T 13. F 14. T 15. T 16. T 17. F 18. T 19. T 20. F

13.3. Approach to the Mains Practice Questions

1.

- ➔ **Introduction:** Briefly define the Jan Yojana Abhiyan.
- ➔ **Main body:** Outline the main objectives and discuss the importance of the program in strengthening local self-governments in India.
- ➔ **Conclusion:** Briefly emphasize the significance of strengthening grassroots democracy in India.

2.

- ➔ **Introduction:** Start with the importance of ensuring access to justice, particularly for marginalized sections.
- ➔ **Main body:** Mentioning the relevant constitutional and statutory provisions, bring out the significance of free legal aid in ensuring justice in India.
- ➔ **Conclusion:** Briefly emphasize the role of free legal aid in upholding constitutional values of equality and fairness.

3.

- ➔ **Introduction:** Give a brief introduction of the RTI Act.
- ➔ **Main body:** Along with highlighting the positive outcomes, also mention the challenges and criticism.
- ➔ **Conclusion:** Briefly emphasize RTI's transformative potential while stressing the need for stronger implementation safeguards.

4.

- ➔ **Introduction:** Start with any recent context or briefly define the ASEAN.
- ➔ **Main body:** Discuss the significance of ASEAN for India and also mention any three key initiatives between India and ASEAN.
- ➔ **Conclusion:** Briefly stress upon ASEAN's importance for India's strategic and economic goals.

- 5.
- ➔ **Introduction:** Start with brief overview of recent developments on LAC in the context of border dispute.
 - ➔ **Main body:** Bring out the various geopolitical implications of the border dispute from the point of view of India.
 - ➔ **Conclusion: Acknowledging challenges and opportunities briefly emphasize upon strategic balancing by India against China.**
- 6.
- ➔ **Introduction:** Start with brief about Non-Kinetic Warfare.
 - ➔ **Main Body:** Discuss the various threats posed by it for India.
 - ➔ **Conclusion:** Provide a way forward for India to deal with such warfare.
- 7.
- ➔ **Introduction:** Define what is SBS
 - ➔ **Main Body:** Write down significance of SBS under separate heading such as national security, protection of space assets etc. Write Concerns of SBS under separate heading such as dual use tech, potential for militarization etc.
 - ➔ **Conclusion:** Add brief Conclusion
- 8.
- ➔ **Introduction:** Define AMR
 - ➔ **Main Body:** Add factors contributing in it under separate heading such as poor waste management etc. Add how it can be tackled under separate heading such as one Health approach, strengthening regulations etc.
 - ➔ **Conclusion:** Add brief Conclusion
- 9.
- ➔ **Introduction:** Highlight the key features of the agreement.
 - ➔ **Main Body:** Discuss its political, social and cultural significance.
 - ➔ **Conclusion:** Conclude with the recent extension of the agreement.
- 10.
- ➔ **Introduction:** Start with recent recognition of classical languages.
 - ➔ **Main Body:** Discuss their role in strengthening literary traditions.
 - ➔ **Conclusion:** Conclude with significance of preserving literary traditions.
- 11.
- ➔ **Introduction:** Start with the brief definition of the BRICS or mention any recent context.
 - ➔ **Main body:** Discuss the significance as well as challenges of BRICS for India.
 - ➔ **Conclusion:** Briefly highlighting the overall value of BRICS for India stress upon the need for careful navigation to maximize its benefits.
- 12.
- ➔ **Discuss original objectives:** manufacturing GDP target, job creation, growth rate
 - ➔ **Analyze achievements:** FDI growth, mobile manufacturing, defense exports
 - ➔ **Highlight shortfalls:** stagnant manufacturing share, job losses
 - ➔ **Suggest solutions:** skill development, innovation ecosystem, ANRF's role
- 13.
- ➔ **Trace evolution:** Naoroji to Rangarajan Committee
 - ➔ **Highlight recent data:** NITI Aayog findings on poverty reduction
 - ➔ **Discuss challenges:** measurement issues, polycrisis impact
 - ➔ **Suggest solutions:** employment-intensive growth, Sen's capability approach
- 14.
- ➔ **Introduction:** Discuss its role and applications with examples.
 - ➔ **Main Body:** Highlight major ethical and legal challenges.
 - ➔ **Conclusion:** Conclude with steps taken.
- 15.
- ➔ **Introduction:** Start with brief about Jal Hi Amrit
 - ➔ **Main Body:** Discuss its potential benefits while highlighting its objectives. Highlight how water re-use can aid circular economy in urban areas.
 - ➔ **Conclusion:** Conclude with SDGs related to water.
- 16.
- ➔ **Introduction:** Start with the global forest goals.
 - ➔ **Main Body:** Mention the current status of these goals. Discuss the challenges associated with their achievement.
 - ➔ **Conclusion:** Conclude with way forward providing strategies to address the challenges.
- 17.
- ➔ **Introduction:** Start with the concept of Greening of Antarctica
 - ➔ **Main Body:** Discuss the associated challenges.

- ➔ **Conclusion:** Conclude with way forward.
- 18.
- ➔ **Introduction:** Start with recent statistics about mental health among youth in India.
 - ➔ **Main Body:** Discuss the factors behind it. Suggest measures to tackle the factors.
 - ➔ **Conclusion:** Conclude with government initiatives.
- 19.
- ➔ **Introduction:** Start with the hunger crisis of globe and India.
- ➔ **Main Body:** Highlight major reasons behind it. Discuss major initiatives taken.
 - ➔ **Conclusion:** Conclude with way forward.
- 20.
- ➔ **Introduction:** Explain the discovery with defining microRNA
 - ➔ **Main Body:** Write about Gene regulation and role of MicroRNA in Gene Regulation. Add potential applications under separate heading such as immune response, disease diagnostics, etc.
 - ➔ **Conclusion:** Add brief Conclusion

13.4. Approach to Case Studies

- ➔ **Intro:** Write an overview of the case and situation for a deeper understanding of compassion and leadership in addressing such injustices.
- ➔ **Body:**
 - ➔ Define Compassion and its role in dealing with discriminatory social problems.
 - ➔ Identify the key stakeholder.
 - ➔ Address Course of Action as: Immediate Action ; Short-term Action; Long-term Action.
- ➔ **Conclusion:** Conclude with upholding the values of the post of Block Development Officer.



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14. Self-Evaluation



Progress Tracking Table

Activity Type	Total Questions	Correct Answers	Attempted	Score/Percentage
MCQ's				
True/False Statements				



Monthly Learning Summary

Top 3 Learnings/Insights	1.
	2.
	3.



Progress Comparison

Previous Month's Score	
Current Month's Score	
Areas of Improvement	



Reflection Section

Strengths	
Areas for Improvement	
Goals for Next Month	



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Aditya Srivastava

16

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from various programs of Vision IAS



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5
AIR

Ruhani



6
AIR

Srishti Dabas



7
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9
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Nausheen



10
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Aishwaryam Prajapati

39

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in TOP 50

in CSE 20 22



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